RESULT

OF

ASTRONOMICAL OBSERVATIONS

MADE AT

THE HONORABLE,

THE EAST INDIA COMPANY'S OBSERVATORY

AT MADRAS.

BY

THOMAS GLANVILLE TA

ASTRONOMER TO THE HONORABLE COMPANY.

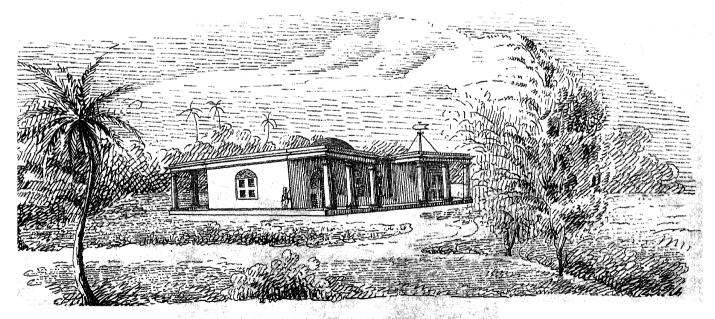
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FOR THE YEARS 1836 AND 1837.

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MDCCCXXXVIII.

PREFACE.

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THE contents of the present volume differs so little from that found in the former volumes of the Madras Observations, as almost to render a preface unnecessary: to conform however to established customs, it is proper for me to remark, that the Observations on the meridian of which the results are here given, have been continued without interruption—principally by the native Assistants, and that those out of the meridian have been made exclusively by myself: In allowing the meridianal Observations to be made by the native assistants, I have been careful frequently to re-examine their bisections with the Mural Circle, and to compare the clock errors from their observations with the Transit Instrument with those determined from my own, when, in no case have I found that their bisections were less accurate than I could have made myself, and the difference between our estimations of time ("personal equation") has seldom amounted to two tenths of a second. The observations of the Sun (which have always proved unsatisfactory—still continue to exhibit the same want of consistency, and my endeavour to discover the cause have—I regret to state not in the least degree proved successful: the observations of the Planet Mars and of Stars situated near to his path for the purposes of Parallax, have now been continued for three successive oppositions, and the necessary comparisons between these and corresponding observations which have been made at the Cape of Good Hope Observatory, have been instituted -without I fear having in the least advanced the object of enquiry: this result, as well as other observations of measuring angular distances with the Mural Circle, tends to shew—that although a single observation may be depended upon to 1", 5 or 2", still, the tenth or twentieth part of this amount which is the present object of enquiry,—can only be attained by an almost unlimited number of observations. The observation of Moon Culminating Stars and occultations has been continued, as has likewise the Eclipses of Jupiter's Satellites, but not having received the corresponding observations at Greenwich complete, I have delayed for the present to attempt any improvement of the supposed value of the Longitude, and since it would have interfered with the observation of the Star Catalogue to attempt reflection Observations; I have likewise allowed the question of Latitude to remain un-The reductions have for the most part been performed by myself, and when performed by an Assistant, have invariably undergone—either a recomputation, or a careful revision by myself before they were trusted. On comparing the places of the 2066 Stars which are here given, with Piazzi's Catalogue; a result similar to that noticed in Vol. III. (as occurring between the Catalogue there given when compared with Piazzi) was here too apparent; in consequence of which, I have gone back to the catalogue given in Vol. II. and have likewise compared it with the places assigned by Piazzi; after combining the results from these three catalogues (containing about 7600 Stars) there still appears a tendency to exhibit a General Proper Motion of the fixed Stars, which can be explained, by supposing a motion of the Solar System towards the North Pole of the Ecliptic: whether the data from which this conclusion has been drawn shall appear sufficient or no, I would beg for the present to claim a little indulgence—until a comparison of the table of refractions employed by Piazzi (not now at my command) with those at present in use, shall have been instituted—and a reexamination of Latitudes undertaken;—this done,—I shall be prepared either to announce this important and somewhat unexpected result, with more precision and certainty, or to acknowledge with humility that I have been in error—

T. G. TAYLOR,
H. C. ASTRONOMER.

I take this opportunity to acknowledge with very many thanks, the receipt of copies of the Conneissance des Temps and Nautical Almanac, as well as other very valuable works from learned Societies and individuals.

OF THE TRANSIT INSTRUMENT.

The eye-piece is furnished with five vertical and one horizontal fixed wires, and one vertical moveable wire; the Equatorial intervals between the former were determined from the intervals occupied by several stars situated near the Pole to pass from wire to wire as follows:—

| | | | Seconds. |
|------|--------------------|-----------------------|----------|
| | 1st wire to centre | | +54,577 |
| trom | 2d | | .+26,961 |
| | 4th | | _27,470 |
| | 4th | | _55,289 |
| | 5th | 2 12 × 12 12 12 12 14 | |

rendering necessary the correction..... $\frac{-0.244}{\cos$. Decln. to reduce the mean

of the five wires to the centre wire.

These numbers hold good up to the 30th October 1836, when the wires were broken in consequence of the shutters on the roof of the Observatory being blown open by the violence of the wind, whereby the instrument was exposed for some minutes to very heavy rain; *-having failed during this time to secure the shutter—the fastenings having given way and one only out of three hinges remaining entire, I was compelled to take the transit off its axis, and deposit it in the safest place I could find; the wind which was blowing from . the North, had burst open the Northern door as well as the Southern one immediately opposite; hence there appeared to be no other choice than that of placing it upon the table which stood against the most secure part of the Northern wall of the Observatory;—here, supported by books and a green baize cover, I felt assured that nothing short of the building falling in, would have in the least degree endangered it; at one instant I thought of depositing it upon the floor, where it would be sheltered by the table, but streams of water which were flowing through the Observatory determined it otherwise; -at 5 o'clock in the afternoon having completed all that could be of service to secure the Instruments-I left the Observatory to the care of an assistant. At \(\frac{1}{4} \) before 7 it blew a perfect hurricane,—the Dome on the top of the Observatory was blown away, and the stoutest trees and hedges were laid low!at 7 o'clock the wind had much moderated, and at 1/4 past 7—a lull—a dead calm ensued. I watched the appearance of the sky and fluctuations of the Barometer at this moment with feelings of intense anxiety and interest;—the clouds were passing one another in utter confusion, and although calm below, it was evident that at no great height above the Earth there was a severe conflict among the elements; -I had hardly time to make a note of these appearances and of the height of the Barometer, when the rain-which had ceased during the lull, again set in, accompanied by the sighs and moans of the again returning hurricane:—at a 1/4 before 8, the wind—which now blew from the South, had risen to a pitch more fearful than that before experienced; in short—no description can convey an adequate idea of its intense fury;—doors and windows, iron bars and bolts—were with one rude rush scattered and broken! At this moment the southern doors of the Observatory, situated opposite to the northern wall where the Transit Instrument had been deposited—was literally blown to pieces; whereby one of the pieces (about 8 feet by 6 Inches by 2 Inches) which had been blown across the room, had fallen edgewise upon the head of the micrometer attached to the Transit Instrument and very neatly cut it off, without at all disturbing the other parts of the telescope. Other

^{*} There fell 7,5 Inches, in the course of 12 hours—for the indications of the Barometer see the end.

injuries had been sustained by the books having been disturbed, whereby the object end of the telescope had fallen upon a pile of books from a height of about 2 feet, whence two slight indentations had been sustained -one on each side of the tube, at 10 or 12 Inches above the object end of the telescope; and the tangent screw of the setting circle had been hit: but it was evident that the axis had not in the slightest degree been injured; a circumstance of which · I have since well assured myself from observation.—The first fact that struck my notice on examining the Instrument-was, that the focal length of the object glass had apparently altered; or rather that the telescope had become shorter; for, in order to render the principal focus coincident with the wires, it was necessary to remove the object glass ,07 of an inch from the position it had hitherto occupied in the cell into which it was secured; -this remedied (which I was enabled to do by interposing three pieces of brass of this thickness between the bottom of the cell and the frame carrying the object glass) it only remained that the micrometer screw should be replaced—this was readily and very neatly accomplished by Mr. Barrow of Calcutta, and six weeks after the date of this calamity all was again in order:—in this interval the observations were continued without the micrometer (as will be seen in the sequel,) without I apprehend in any material degree endangering their general accuracy.

Up to the date of these misfortunes the illuminating pivot had always reposed upon the eastern Y or Pillar; but the damage sustained by the tangent screw above noticed, rendering its motion stiff and uncertain, I was induced to shift the position of the axis—so as to bring the other setting circle into use; accordingly from the 5th November to the present time the position of the Instrument has been "illuminating Pivot West."

On the 5th November I put in a new set of Wires, when—from the mean of several Stars situated near to the Pole, the Equatoreal intervals were found to be—

| | Seconds. |
|-------------------------|----------|
| from 1st wire to centre | +54,840 |
| 2d | |
| 4th | |
| 5th | -54,530 |

hence to reduce the mean of the five wires to the centre wire, for the fixed

Stars we must apply the correction.....
$$-\frac{s}{0.053}$$

In volumes I. and II. the value of the micrometer screw had been determined to be 34,366 for each revolution, whereas for that now in use (which I requested Mr. Barrow to make of nearly the same degree of fineness)—one revolution corresponds to 32,94.

It now only remains for me to state another, though trifling circumstance with regard to the Transit Instrument—namely, that after above six years of constant use, the lacquer had completely disappeared from the eye end of the telescope, and existed in patches only on the other parts;—with a view to arrest the progress of oxidation, as well as to improve its now dingy appearance,—on the 22-25th February 1837, I applied two coats of oil paint over the entire surface, whereby its appearance as well as efficiency is again restored.

ERROR OF LEVEL OF THE TRANSIT AXIS.

THE error of level of the Transit Axis has been determined as heretofore by the Spirit level, and the necessary correction for error of level applied to each observations; this is true at least for the observations made before the 30th October 1836, and for those made after the 18th January 1837:—for the observations made between these dates—having from time to time adjusted the axis to horizontality, no correction on this account is necessary. Column (L+P) is obtained from the mean of three readings of the level with the Cross level East, and the same number with Cross level West, viz. one at each extremity, and one in the middle of the pivots; the value of P or half of the apparent defect of the illuminating pivot which is given at page 1-being applied, leaves the values of L which have been employed in the reduction of the Observations. It must be noticed however that the correction P applies with a contrary effect after the 5th November 1836 to what it did before that date, in consequence of the illuminating or smaller pivot having been transferred from the Eastern to the Western Pier, as has already been stated at page 3.

| 1836, | Illmtg. Pivot. | L+P | Remarks, &c. | 1836. | Illmgt. | L+P | Remarks, &c. |
|--|--|--|---|--|---|--|--|
| 4 | East | 3,56 E 3,49 ,, 2,92 ,, | | 16 | | 1,23 E 0,40 ,, 0,12 ,, | • • • • • • • • • • • • • • • • • • • |
| 13 13 16 18 20 22 22 23 25 25 26 26 27 | 3 · · · · · · · · · · · · · · · · · · · | 2,72 ,, 3,03 ,, 3,54 ,, 3,48 ,, 3,10 ,, 3,11 ,, 3,13 ,, | | 19 21 28 28 27 29 May | | 0,31 ,, 1,11 ,, 0,42 ,, 0,07W 0,15 ,, 0,41 E 0,60 ,, 0,38 ,, 0,15 ,, | |
| Feb. 29 | 3 5 | 2,60 ,, 2,66 ,, 3,06 ,, 2,92 ,, 2,50 ,, 2,39 ,, 2,21 ,, | Mean= $\left\{ \begin{array}{l} 3,20 \text{ E} \\ 70 \end{array} \right\} \cdot \text{L}=3,90 \text{ E}$ Mean= $\left\{ \begin{array}{l} 2,65 \text{ E} \\ 70 \end{array} \right\} \cdot \text{L}=3,35 \text{ E}$ | 11 13 16 18 20 23 24 27 29 | | 0,25 ,, 0,50W 1,02 ,, 1,70 ,, 0,55 ,, 2,02 ,, 1,25 ,, 1,47 ,, 1,32 ,, 1,53 ,, | $ Mean = \begin{cases} 0,44E \\ ,70 \end{cases} \therefore L = 1,14E $ Land winds set in. |
| 2 2 2 2 March | 2 4 6 8 1 3 5 7 9 2 | 1,99 ,, 1,60 ,, 1,60 ,, 2,15 ,, 2,66 ,, 2,29 ,, 2,61 ,, 2,61 ,, 2,60 ,, 1,72 ,, 1,63 ,, 1,32 ,, | | June | 2 4 6 8 0 2 | 1,67 1,12 1,47 1,26 1,21 1,07 1,37 1,29 0,82 0,52 0,17 0,43 0,93 | |
| 1 2 2 2 2 3 3 April 1 1 | 4 6 8 1 3 5 8 0 2 4 7 9 | 1,38 ,, 1,74 ,, 1,22 ,, 0,88 ,, 0,72 ,, 1,00 ,, 1,10 ,, 0,87 , 0,05 W 2,01E 0,17 W 0,39 1 0,31 , | Mean= $\left\{ \begin{array}{l} 1,93E \\ 7,70 \end{array} \right\}$ L=2,63E | July August | 9 1 4 8 3 15 18 20 23 | 0,85 ,, 1,05 ,, 0,15 E 0,46W 0,11 , 0,62 , 0,66 , | Mean= \ \ \frac{1,13W}{70} \ \cdots \ \cdots \ \L=0,43W \ \\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ |

This is omitted in taking the Mean.

| 1836. | Illmtg. Pivot. | L+P | Remarks, &c. | 1837 | • | Illimic. Pivot. | L-P | REMARKS, &c. |
|----------------------------------|-------------------|--|---|-------|----------------------------------|-----------------|--|---|
| August15 | East | 0,64 E 1,06 ,, | Mean= $\left\{ \begin{array}{l} 0,05W \\ 70 \end{array} \right\}$ L=0,65E | Feb. | 4 7 | West | 2,50 E 2,47 ,, | Mean= $\left\{ \frac{2,47E}{70} \right\}$ L=1,77E |
| 22 24 27 Sept. 7 | | 1,53 ,, 1,20 ,, 1,57 ,, | | | 10 14 16 21 | • • | 4,20 ,, 4,37 ,, 4,02 ,, 3,20 ,, | |
| 9 11 15 | • • | 2,21 ,, 1,83 ,, 1,78 ,, 1,87 ,, | | March | 27 4 9 | • • | 4,11 ,, 4,76 ,, 3,91 ,, | |
| 17 19 22 23 26 29 | | 2,01 ,, 2,15 ,, 1,93 ,, 1,65 ,, | | | 13 17 21 24 28 | * * | 3,21 ,, 3,35 ,, 2,70 ,, 2,79 ,, | (3.65E) " |
| Oct. 3 | •• | 2,52 ,, 2,59 ,, 2,12 ,, 2,23 , | | April | 31 3 | • • | 1,91 ,, | |
| 10 12 14 | • • | 2,92 ,, 2,23 ,, 1,69 ,, 1,44 ,. | | | 6 9 12 15 | ••• | 1,62 ,, 1,17 ,, 1,95 ,, 1 ,90 ,, | |
| 16 19 21 24 | | 1,17 ,, 1,81 ,, 1,97 | n | | 12 15 18 21 24 27 | •• | 1,36 ,, 2,41 ,, 1,04 ,, | , |
| 26 | • • • | 0 70 | Mean= $\left\{ \frac{7,93E}{,70} \right\}$ L=2,63E | May | 24 27 30 3 6 | | 1,38 ,, 0,78 ,, 0,75 ,, 0,66 ,, | |
| 1836. Nov. 8 | West | L—P | Adjusted for Level. | | 9 12 15 18 | 31 | 0,27 ,, 0,25W 0,07 E | |
| 15 15 15 |) | 2,50 E 2,00 ,, | Do. Do. | | 21 24 27 | | 1 | Mean= $\left\{ \begin{array}{l} 0,56E\70 \end{array} \right\}$.: L=0,14W |
| Decr. 25 | 1 | 1,37 W 1,90 W | Adjusted for Level. Do. Do. Do. | June | 30 | | $\begin{vmatrix} 2,69 & , \\ 0,93 & , \end{vmatrix}$ | |
| $\frac{2}{2}$ | | 1 CATT | Do. Do. | | 1: 1: 1: | 1 | 0,78,, 0,55,, 0,07,, 1,12,, | |
| | 2 9 8 | [2,67] | , Adjusted for Level. | | 2 2 2 2 | 0 3 6 | 0,58, 1,28,, 1,23,, 0,97, | |
| 2 | 5 | $\begin{vmatrix} 2,55 \\ 2,15 \end{vmatrix}$ | | July | ليند | 2 | 0,72 | |

| 1837 | Illmtg. Pivot. | L-P. | Remarks, &c. | 1837 | | Illmtg. Pivot. | L—P. | Remarks, &c. |
|--|-------------------|--|--|-------|---|-------------------|---|--|
| July 5 | | 1,10 E 0,74 ,, | | Oct. | 6 | West | 2,26 E | |
| 11 14 17 | | 0,95 ,, | Mean= $\{0,88E \atop 70\}$ \tag{1.18E} | | 9 12 15 18 21 24 27 30 | • • | 2,13 ,, 1,90 ,, 1,87 ,, 2,27 ,, 2,60 ,, | |
| 20 23 26 29 | • • | 1,47 ,, 1,48 ,, 1,42 ,, 1,03 ,, | | | | | 2,50 ,, 2,38 ,, 2,60 ,, | Mean= $\left\{ \begin{array}{l} 2,27 \text{E} \\ ,70 \end{array} \right\} \cdot . \text{L=}1,57 \text{E}$ |
| August 1 4 7 10 | 1 | 0,84 ,, 1,82 ,, 2,41 ,, 1,64 ,, | | Nov. | 2 5 8 | • • | 6,78 ,, 6,82 ,, 6,74 ,, | There fell 8,6 Inches of rain. |
| 10 13 16 19 21 25 28 | •• | 1,73 ,, 1,83 ,, 1,90 ,, 1,38 , | | | 11 14 17 20 23 | | 5,90 ,, 5,56 ,, 5,10 ,, 4,78 ,, | |
| | • • | 1,50 ,, 1,86 ,, 1,82 ,, 1,05 ,, | | Decr. | 23 26 29 2 | | 5,18 ,, 5,29 ,, 5,00 ,, 5,09 ,, | |
| 13 | | 1,75 ,, 1,45 ,, 1,40 ,, 1,39 ,, | • | | 8 11 | ••• | 4,99 ,, 5,33 ,, 5,70 ,, | Mean= $\left\{ \begin{array}{l} ".27E \\ 5,27E \\ .70 \end{array} \right\}$ L= $\frac{7}{4}$,57E |
| 13 15 18 21 24 27 30 | • • | 0,91 ,, | | | 14 17 20 23 26 | 1 | 2,85 ,, 2,25 ,, 2,50 ,, | |
| | 3 | $\begin{vmatrix} 0.54 & \\ 1.60 & \\ 0.50 & \\ 2.17 & \end{vmatrix}$ | 1 | | 29 31 | | 2,40 ,, 1,99 ,, 2,05 ,, | |

ERROR OF COLLIMATION OF THE TRANSIT INSTRUMENT.

Having found from experience that the determination of the error of Collimation by inversion of the axis was sometimes liable to uncertainty, (by reason of the great care which is necessary, but which cannot always be afforded, in placing the pivots on their Y's), I have in the present volume, as heretofore, had recourse to inversion for this purpose but very seldom, and then only have employed it as a check upon other methods. In the early part of 1836 the error of Collimation was determined by measuring with the micrometer

ERROR OF COLLIMATION OF THE TRANSIT INSTRUMENT.

screw, the horizontal angular distance between the North and South Meridian Marks, and comparing this result with the previously known true angular distance; thus,—if C represent the collimation error, N^1 , $-S^1$ the observed azimuths of the centre wire as affected by C, and N,—S the azimuths as not so affected, we have

the reading of the North Mark =
$$+ N^1 = +N + C$$

South do. = $-S^1 = -S + C$

taking the sum, $N_1-S_1=N-S+2C$; in which N-S, the true angular distance between the marks being known, we immediately obtain the value of C:—for the value of N—S (= θ) there were several measures made in the early part of 1835 (see Vol. III p. 8.) in which it came out 180° 0′ 26",03 and from 5 Inversions on the 13th January 1836 it came out 180° 0' 25",77; the former result however is that which has been employed in the computations. For the observations after 20th March and up to 30th October 1836, the azimuth of the centre wire from the North Mark only has been observed, and in place of the other, an observation has been made on every second or third day with the "Reflecting Collimator." The observation with the "Reflecting Collimator" which has been explained already in Vol. III; -consists in measuring the angular distance with the micrometer, between the direct image of the centre wire, and its image as reflected from a basin of quicksilver: to accomplish this, I drilled a small hole in the side of the telescope, at about 6 inches from the eye end, so that the light from a lamp after passing through it, might fall uninterruptedly upon the wires; -I now introduced a silver speculum into one of the eye pieces in front of the lens, so that by varying its inclination, the light from the lamp could be thrown perpendicularly upon the wires, whereby their image as reflected from a basin of quicksilver placed underneath the Transit, was nearly as well defined as the direct image; the speculum was suspended upon an axis passing through the sides of the eye piece, by which it could be adjusted to the proper angle, and was furnished with a small elliptical hole (about ,07 of an In. diameter) through which the wires were seen. In the employment of this method, it is indispensably necessary that the centre wire should describe a vertical circle, and that the moveable wire be parallel to it; this latter precaution however would not be necessary—could the bisection be made at the exact point of its intersection with the horizontal wire; but this not being accomplishable in practise, in consequence of the want of light at this part of the field, by reason of the shadow of the aperture through which the observation is made; -- it becomes necessary when parallelism cannot be obtained, to allow for its effect:—In the case of the Madras Transit;—since the application of the steel pivots, the adjustment of the moveable wire for parallelism has proved insufficient; hence the readings of the Reflecting Collimator which now follow, are not those immediately read off from the instrument, but the readings as corrected for want of parallelism.

In the table which follows, these corrected readings of the Reflecting Collimator divided by 2, or C + L * are given; -in which C (as noted above) represents · the error of collimation, and L the error of Level. The quantity L+P, is taken from the level observations at pages 5-7, save that for the days intermediate between those on which the level was observed, I have employed corresponding intermediate values. For the observations between the 1st November 1836 and 18th January 1837—having been deprived of the means of measuring angular distances, by the loss of the micrometer, I now placed a small Mark upon the pier which had hitherto supported the old North Meridian Mark, and as nearly as possible in the direction of the meridian; my object was with the level, to render the amount L=0 by adjustment; and then, the reflecting collimator allowing me to adjust for any amount of Collimation C, the azimuth error would remain the only unknown: hence the observations made in the interval just stated do not require correction for error of Collimation. the 18th January 1837 having applied the new micrometer, and for convenience sake produced a small collimation error-I recommenced the measurement of the errors of Collimation as they had previously been conducted before the Storm.

Illuminating Pivot East, the reading was $+13^{\circ}$,81=(C+L) \times 2

West,
$$-5,43 = \overline{C + L - 2P} \times 2$$

assuming P=-0",80, we get L=1",29 E. and C=5,"61; whereas from the level Observations we find L=2",11 E; and, from the Observation of the N. and S. Marks C=6,"15, and from inversion 6",39.

^{*} In Vol. III. page 17 line 34 et seq., I have committed an unaccountable mistake and an oversight;—1st in stating the reading of the Reflecting Collimator tolbe $(C+L+P) \times 2$,—and 2ndly, in omitting a correction due to the want of parallelism of the centre and moveable wires. As the numbers stand in Vol. III. they are however right, or very nearly so, in consequence of the correction for want of parallelism amounting to 7 or 8 tenths of a second—nearly that of P;—thus, the reading of the last column or 2 P, should be P+'',75. P=-0'',77. And for lines 1—5 page 18 the following should be substituted—

| | Observed | Azimuth | $N+S+\theta$ | | Ref. Col. | T I D | Diff or | |
|-----------------|----------------|----------|----------------|----------------|---------------------------|-------|---------|------------------|
| 1836. | | <u> </u> | 2 | REMARKS, &c. | 2 | L+P | C—P | P |
| | N. | s. | or | i i | or | 1 | | |
| | , 11. | ν. | C | | $\mathbf{C} + \mathbf{L}$ | | | |
| | " | " | " | | " | " | " | " |
| Jan. 1 | +38,35 | -44,24 | +10,07 | | · · | | 1 | ¥ |
| 2 | 38,15 | 44,41 | 9,89 | | 1 | | | |
| 3 | 38,18 | 44,68 | 9,77 | | +14,65 | +3,52 | +11,13 | -1,36 |
| 4 | 38,15 | 44.51 | 9,84 | | 14,45 | 3,49 | 10,96 | 1,12 |
| 5 | 38,18 | 44,75 | 9,73 | | ļ | * | | |
| 6 | 38,08 | 44,61 | 9,75 | | 7 | | 1 | 7 |
| . 7 | 38,18 | 44,41 | 9,90 | | 14,42 | 2,82 | 11,60 | 1,70 |
| 8 | 38,15 | 44,58 | 9,80 | | | | 1 | |
| 9 | 38,25 | 44,53 | 9,85 | 74 04 04 | 7404 | 0.07 | 11.07 | 7 50 |
| 10 | 38,12 | 44,58 | 9,78 | Mean=9",84 | 14,24 | 2,87 | 11,37 | 1,59 |
| 11 | 37,95 | 44,55 | 9,71 | | | | | |
| $\frac{12}{12}$ | 38,18 | 44,45 | 9,88 | | 6 14,61 | 0.54 | 1 777 | 104 |
| 13 | 38,29 | 44,45 | 9,93 | | 14,82 | 3,54 | 11,17 | 1,24 |
| 14 | 38,15 | 44,20 | 9,99 | | | 2.51 | 10,98 | 0,96 |
| 15 16 | 38,05 | 44,03 | 10,02 | | 14,49 | 3,51 | 10,98 | : |
| 17 | 38,18 | 44,06 | 10,07 | | 14,16 | 3,48 | 10,00 | 0,61 |
| 18 | 38,22 38,12 | 43,82 | 10,07 10,16 | | | | 1 | |
| 19 | 38,05 | 43,82 | 10,13 | | 13,65 | 3,11 | 10,54 | 0,41 |
| 20 | 37,95 | 44,17 | 9,90 | Mean=9",99 | 12,69 | 3,11 | 9,58 | +0,32 |
| 21 | 38,35 | 44,07 | 10,15 | Wicau-5,55 | 13,29 | 3,12 | 10,17 | -0.02 |
| 22 | 38,22 | 44,10 | 10,13 | | 10,23 | 0,12 | 10,17 | -0,02 |
| 23 | 38,29 | 43,90 | 10,21 | | li | Ì | | |
| $\frac{26}{24}$ | 38,39 | 44,31 | 10,06 | | 12,36 | 3,03 | 9,33 | +0,73 |
| $\tilde{25}$ | 38,15 | 44,03 | 10,07 | | 22,00 | 1 | 1 0,00 | , 0, |
| 26 | 38,25 | 44,07 | 10,10 | | 12,53 | 3,15 | 9,38 | +0.72 |
| 27 | 38,56 | 43,97 | 10,31 | | 14,32 | 3,28 | 11,04 | _0,73 |
| 28 | 38,32 | 44,21 | 10,07 | | 13,13 | 3,22 | 9,91 | +0,16 |
| 29 | 38,39 | 44,41 | 10,00 | | ' | | | |
| 30 | 38,29 | 44,41 | 9,95 | Mean=10",10 | 12,70 | 2,88 | 9,82 | +0.13 |
| 31 | 38,22 | 44,51 | 9,87 | | 12,87 | 2,88 | 9,99 | -0.12 |
| Feb. 1 | 38,25 | 44,24 | 10,02 | | 12,78 | 2,60 | 10,18 | 0,16 |
| 2 | 38,15 | 44,27 | 9,96 | | i | | 1 | |
| 3 | 38,32 | ļ —— | | | 13,29 | 2,66 | 10,63 | -0,56 |
| 4 | 38,36 | 44,00 | 10,19 | | 13,47 | 2,75 | 10,72 | 0,53 |
| 5 | 38,12 | 44,17 | 9,99 | | 12,77 | 2,84 | 9,93 | +0,06 |
| 6 | 38,36 | 44,24 | 10,07 | | | | | |
| 7 | 38,43 | 44,07 | 10,19 | | 13,29 | 2,95 | 10,34 | <u> </u> |
| 8 | 38,33 | 44,14 | 10,11 | | 13,47 | 3,06 | 10,41 | 030 |
| 9 | 38,18 | 44,31 | 9,95 | 7.0 | | | | ί |
| 10 | 38,33 | 44,17 | 10,09 | Mean=10",05 | | į | | |
| 11 | 38,33 | 44,31 | 10,02 | | | 1 | | |
| 12 | 38,56 | 44,37 | 10,11 | | 3005 | | 70.50 | |
| 13 | 38,63 | 44,71 | 9,97 | | 12,95 | 2,45 | 10,50 | 0,53 |
| 14 | 38,63 | 44,41 | 10,12 | | 12,77 | 2,39 | 10,38 | 0,26 |
| 15 | 38,73 | 44,85 | 9,96 | | 10.40 | 0.01 | 1000 | 0,34 |
| 16 | 38,65 | 44,85 | 9,91 | | 12,43 | 2,21 | 10,22 | 0,31 |
| 17 | 38,69 | 44,85 | 9,93 | | 12,60 | 2,10 | 20,50 | 0,57 |
| 18 | 38,56 | 44,88 | 9,86 | [| | | | |
| 19 | 38,56 | 44,65 | 9,77 | I took out the | 71 40 | 1.00 | 0.00 | 1000 |
| 20 21 | 39,32 | 45,27 | 10,04 | object glass. | 11,40 | 1,60 | 9,80 | +0.24 |
| 1 21 | 39,76 | 45,19 | 10,30 | Mean=9",90 | 12,43 | 1,60 | 10,83 | -0,53 |

| | *************************************** | | Observed | Azimuth | $ N+S+\theta $ | | Ref. Col. | | management believe from the state of property of | |
|---|---|-----------------|----------|---|----------------|--|-----------|-------|--|--------------|
| | 102 | 06 | | · | | D | | L+P | Diff. or | |
| | 1836. | | | | | Remarks, &c. | 2 | | С—Р | P |
| | | | N. | S. | or C | | or | | | |
| | | | | | | | C+L | | | |
| - | | | 11 | " | " | | " | " | " | " |
| | Feb. | 22 | +39,59 | | 1+ | | | | | |
| | | 23 | 39,66 | 45,64 | 10,03 | | 12,08 | +2,05 | 10,03 | 0 ,00 |
| . | | 24 | 38,98 | 45,34 | 9,84 | | 1 | | | -0.24 |
| | | 25 | 39,15 | 45,47 | 9,86 | | 12,43 | 2,40 | 10,13 | -0.27 |
| 1 | | 26 | 39,01 | 45,37 | 9,84 | | 13,12 | 2,66 | 10,46 | -0,62 |
| i | | 27 | 38,91 | 45,55 | 9,69 | G. | 13,29 | 2,47 | 10,82 | 1,13 |
| | | 28 | 38,84 | 45,45 | 9,72 | | | | | |
| Ì | 78. AF | 29 | 38,87 | 45,19 | 9,86 | | | | | |
| | Mar. | 1 | 38,87 | 45,00 | 9,95 | | 13.65 | 2,19 | 11,46 | 1,51 |
| 1 | | 2 | 38,98 | 45,02 | 10,00 | Mean=9",91 | 12,95 | 2,40 | 10,55 | 0,55 |
| | t | 3 | 38,87 | 45,27 | 9,82 | | 12,43 | 2,60 | 9,83 | 0,01 |
| | | 4 | 38,94 | 45,12 | 9,93 | | 13,12 | 2,60 | 10,52 | 0,59 |
| | | 5 | 38,87 | *************************************** | | | 13,02 | 2,60 | 10,42 | |
| i | | 6 | 39,08 | - | | | 12,69 | 2,37 | 10,32 | İ |
| I | | 7 | 38,87 | 4.4.44 | | | 12,26 | 2,15 | 10,11 | |
| i | | 8 | 38,87 | 44,75 | 10,08 | | | i | İ | |
| | | 9 | 39,01 | | | | 11,23 | 1,72 | 9,51 | |
| 1 | | 10 | 39,01 | 44,92 | 10,06 | | 11,06 | 1,68 | 9,38 | +0,68 |
| ı | | 11 | 38,81 | | . | | 11,06 | 1,68 | 9,38 | |
| | | 12 | 38,94 | | | | 10,54 | 1,63 | 8,91 | İ |
| | | 13 | 38,91 | T | | | | | 1 | i |
| ļ | | 14 | 38,91 | | 0.00 | | 10,71 | 1,32 | 9,39 | |
| 1 | | 15 | 38,77 | 45,05 | 9,88 | | | | } | Ī |
| 1 | | 16 | 38,77 | 45,37 | 9,72 | • | 10,94 | 1,38 | 9,56 | +0,16 |
| | | 17 | 38,52 | ~ | | | 10.71 | 1,56 | 9,15 | |
| | | 18 | 37,88 | Berthagen accommong to the second | | ************************************** | 10,02 | 1,74 | 8 28 | |
| ļ | | 19 | 38,08 | - | | Mean of 67 | 10,20 | 1,48 | 8,72 | 1 |
| | | $\frac{20}{21}$ | 38,59 | 15.00 | | = +9'',96 | 10,20 | 1,48 | 8,72 | |
| d | - | 21 | 38,49 | 45,02 | 9.75 | and the second s | | | | 1 |

The extreme difficulty which has hitherto attended the keeping in view of the South Meridian Mark, by reason of the rapid growth of the trees which intervene between it and the Observatory, has at length determined me to give it up altogether; I do this with less reluctance than I otherwise should have done, from the consideration of its instability, and from the persuasion I feel of the Reflecting Collimator being well qualified to supersede the use of two Marks. If we now take the mean of the values in the last column we get P = -0'', 40 whereas from a similar number of observations in 1836, Vol. III. it came out—0'', 77, and from observations at various times with the spirit level (page 1), we obtained for the value of P,—0'', 83; hence the assumption of P, to be—0'', 70 which has been done in the following computations, cannot be far from the truth.

| 1836. | L+P | Ref. Col. 2 or C+L | Diff. C—P | Remarks, &c. |
|--|--|---|---|--|
| March 23 25 26 28 29 April 1 2 4 6 | 0,88 0,80 0,72 0,86 1,05 1,10 0,87 | +10,02 10,02 9,85 9,85 9,85 9,51 9,85 10,02 10,54 11,23 | +9,14 9,05 9,13 8,99 8,46 8,75 9,15 | Mean of $10 = +9.32$ |
| 9 11 12 14 15 16 19 20 21 22 | +2,01 0,39 0,35 1,23 0,81 0,40 0,31 0,71 1,11 | 10,72 9,16 9,68 10,89 11,23 9,94 10,89 10,02 10,37 10,20 | 11,28 8,71 8,77 9,33 9,66 10,42 9,54 10,58 9,31 9,26 9,44 | $ \begin{array}{c} - 0,70 \\ \cdot \cdot \cdot C = +8,62 \end{array} $ Mean of $10 = +9,50$ $ -0,70$ $ \cdot \cdot \cdot C = +8,80 $ |
| 24 25 26 27 28 May 1 | 0,18 -0,07 0,11 0,15 +0,13 0,60 0,49 0,38 0,27 0,20 0,25 | 10,71 10,20 9,51 10,37 10,19 10,20 10,10 10,10 10,10 10,44 9,08 | 10,53 10,13 9,62 10,52 10,06 9,60 9,61 9,72 9,83 10,24 8,83 | Mean of $12 = +\tilde{9},86$ |
| 11 13 16 20 23 24 27 | 0,50 1,02 3,1,70 6,0,55 1,25 1,47 5,1,32 | 9,16 12,95 12,26 12,60 10,56 10,97 | 9,66 13,97 13,96 13,15 11,81 12,44 13,96 | |
| June 3 | 1,47 1,23 8 1,07 1 1,33 | 11,23 9,68 10,89 11,23 12,07 14,16 | 12,35 11,15 12,12 12,30 13,40 *14,83 | ∴ C +12,51 |

^{*} This is omitted in taking the mean.

| } | | · | | | |
|-------|-----------------|--------------|---------------------|--|--|
| 183 | 6. | L+P | Ref. Col. 2 or C+L | Diff. | Remarks, &c. |
| | | " | // | " | |
| June | | | + 12,60 | + 12,95 | |
| İ | 18 | | 11,75 | 11,92 | " |
| | 20 | | 11,06 | 11,49 | Mean of $10 = +12,15$ -0,70 $\therefore C = +11,45$ |
|] | 21 25 | 0,68 | 11,40 | 12,08 | 0,70 |
| | 20 | 0,89 | 10,89 | 11,78 | $\therefore C = +11,45$ |
| Ī | 29 | 0,85 | 10,54 | 11,39 | |
| July | ~ĭ | | 11,23 | 12,28 | |
| | 4 | +0,15 | 11,02 | *10,87 | |
| 1 | 7 | -0,16 | 12,01 | 12,17 | |
| 1 | 8 | | 12,08 | 12,54 | |
| | 12 | | 12,95 | 13,57 | |
| | 13 | | 12,26 | 12,88 | |
| | 18 | | 12,60 | 13,33 | |
| 1 | 19 20 | 0,46 | 10,89 | 11,35 | NT 610 170 20 |
| | $\frac{20}{21}$ | 0,19 0,31 | 11,43 | 11,62 | Mean of 10 = +12,29 |
| | 21 | 0,01 | 11,43 | 11,74 | Mean of $10 = + 12,29$ $\frac{-0,70}{+11,59}$ ∴ $C = \frac{12,29}{+11,59}$ |
| l | 23 | 0,43 | 10,37 | 10,80 | $\therefore C = +11,59$ |
| | $\tilde{2}_{5}$ | 0,26 | 11,45 | 11,71 | |
| | 27 | 0,10 | 11,57 | 11,67 | |
| 1 | 2 9 | | 10,71 | 10,45 | Mean of $6 = +11,10$ |
| | 31 | 0,06 | 10,46 | 10,40 | - 0,70 |
| Augu | st l | -0,14 | 11,40 | 11,54 | $\therefore C = \frac{5,10}{+10,40}$ |
| 1 | , | 0 7 4 | 10.40 | ************************************** | The observations with the reflecting col- |
| - | | +0,54 | 12,43 | 11,89 | limator from the 11th to the 27th August |
| | 12 13 | 0.50 | 11,45 | 10,86 | were made by my assistant Annutachary, |
| Ì | 14 | | 12,07 | 11,48 | to whom I had confidently entrusted them |
| | 15 | | 11,57 10,97 | 10,98 10, 33 | during my absence from Madras;—having |
| | 16 | | 10,57 | 10,00 | on the 29th discovered a strange difference |
| 1 | 17 | -, | 11,31 | 10,46 | from the observation made on the 27th by |
| | 18 | 1,06 | 10,80 | 9,74 | the Assistant; I requested him to examine |
| | 19 | | 10,45 | | my bisection, when—the cause of disagree- |
| | 22 | 1,53 | 10,80 | 9,27 | ment was fully explained, by his reading off the complimental number of divisions |
| ļ | 23 | 1,36 | 10,28 | 8,92 | from the micrometer head instead of the |
| ļ | 24 | 1,20 | 10,37 | 9,17 | true;—I might readily by allowing for this |
| 1 | 26 27 | 1,38 | 10,71 | 9,33 | set the matter right, but since the collima- |
| | 28 | 1,57 | 10,63 | 9,06 | tion error appear unchanged, I have pre- |
| i | 29 | 1,39 | 14,32 | 12,93 | ferred cancelling the ref. coll. observations. |
| Sept. | 6 | 1,39 | 14,24 | 12,85 | |
| | 7 | 2,21 | | ,00 | • |
| 1 | 9 | 1,83 | 14,32 | 12,49 | |
| 1 | 11 | 1,78 | 14,49 | 12,71 | The second secon |
| | 13 | 1,83 | 14,83 | 13,00 | |
| | 15 | | 15,18 | 13,31 | |
| | 17 | 2,01 | 15,18 | 13,17 | |
| I | 19 | 2,15 | 15,36 | 13,21 | |

| 183 | 6. | L+P | Ref. Col. 2 or C+L | Diff. | Remarks, &c. |
|-------|-----------------------|--------------|---------------------|----------------|---------------------------------------|
| Sant | 21 | 1102 | + 15,36 | 1 19 49 | |
| Sept. | $\frac{21}{23}$ | +1,93 $1,65$ | 7 10,50 | + 13,43 | |
| Ì | 26 | 2,52 | 15,01 | 12,49 | |
| | 29 | 2,59 | 14,83 | 12,24 | |
| Oct. | 1 | 0.00 | | | |
| | 2 | 2, 36 | 7530 | 70.00 | |
| ĺ | 5 6 | 2,12 2,23 | 15,18 15,01 | 13,06 12,78 | Mean of $14 = +12,86$ |
| | 1 2 3 6 8 | 2,23 2,92 | 15,35 | 12,43 | $\frac{1}{-0.70}$ |
| 1 | | ~,0 ~ | | | $\therefore C = \frac{-0.70}{+12.16}$ |
| | 10 | 2,23 | 12,60 | 10,37 | 12,10 |
| | 12 | 1 ,69 | 13,38 | 11,69 | |
| | 14 | 1,44 | 13,12 | 11,68 | |
| Î | 16 19 | 1,17 | 13,12 | 11,95 | |
| | 21 | 1,81 1,97 | 12,95 12,95 | 11,14 10,98 | |
| | 24 | 2,03 | 13,21 | 11,18 | ,, |
| | 26 | 1,92 | 13,29 | 11,37 | Mean of $9 = +11,25$ |
| | 29 | 3,73 | 14,66 | 10,93 | — 0,70 |
| | 30 | | | | $\therefore C = \overline{+10,55}$ |

A hurricane had shattered the S. E. door of the Observatory to pieces, and broken the micrometer screw of the Transit Instrument—
1836.

Nov. 5, Put in a new set of wires and adjusted the collimation of the centre wire by means of the reflecting collimator.

| 12, | mined the pos do. | do. | do. | do. | : - | | | |
|----------|----------------------|----------------|---|------------------|--------------|--------------|--|--|
| 17, | do. | do. | do. | do. | | | | |
| 22, | do. | do. | found | l the wire a lit | tle to the E | adjusted it. | | |
| Dec. 1, | do. | do. | | l the wire a lit | | | | |
| 6, | do. | do. | do. | | d correct. | | | |
| 9, | do. | do. | do. | dò. | do. | | | |
| 13, | do. | do. | do. | do. | do. | | | |
| 21, | do. | do. | do. | do. | do. | | | |
| 24, | do. | do. | do. | do. | do. | | | |
| 1837 | • | | | | | | | |
| Jany. 2, | do. | do. | found | the wire a lit | tle to the E | adjusted it. | | |
| 9, | do. | do. | do. | | correct. | | | |
| 14, | do. | do. | found the wire a little to the E. adjusted it | | | | | |
| 18, I pu | arposely move | ed the wires a | | | | | | |

| 1 | | | | |
|----------|------------------------------|---------------------------|--|---|
| | | Ref. Col. | | |
| 1837. | L—P | 2 | Diff. | REMARKS, &c |
| | | or | or | |
| | | $\mathbf{C} + \mathbf{L}$ | C + P | |
| | 11 | <u> </u> | Managementa aprincipa meneropia perbedatantian | |
| Jany. 18 | +2,67 | -10,78 | -13,45 | |
| 22 | 2,61 | 9,45 | 12,06 | |
| 25 | 2,55 | 10,34 | 12,89 | |
| 31 | 2,15 | 9,51 | 11,66 | Mean of $7 = -11,48$ |
| Feb. 4 | 2,50 | 8,31 7,00 | 10,81 | P = -0.70 |
| 10 | 2,47 4, 20 | 5,84 | 9,47 $10,04$ | $C = -\frac{0.70}{10.78}$ By invers. $C = -10.04$ |
| 10 | 4,20 | 10,62 | 14,82 | Increased the coll. error. |
| 14 | 4,37 | 10,63 | 15,00 | i i i i i i i i i i i i i i i i i i i |
| 16 | 4,02 | 11,28 | 15,30 | |
| 21 | 3,20 | | • | Painted the Transit Instrument. |
| 27 | 4,11 | 10,63 | 14,74 | |
| March 4 | 4,76 | 10,52 | 15,28 | |
| 9 13 | 3,9 1 3,2 1 | 11,11 | 15,02 14,81 | |
| 17 | 3,35 | 10,95 | 14,30 | Inverted the axis twice, when C was found |
| 21 | 2,70 | 11,93 | 14,63 | —14″,82 |
| 24 | 2,79 | 12,59 | 15,38 | I took out the object glass to remove a screw |
| 28 | 3,16 | 11,76 | 14,92 | which was rathing about on the inside of |
| 31 | 1,91 | 13,27 | 15,18 | the telescope;—the screw appeared to be |
| April 3 | 1,70 | 13,58 | 15,28 | long to the rackwork motion employed |
| 6 9 | 1,62 1,17 | 14,90 1 4,65 | $16,52 \\ 15,82$ | for moderating the light;—after which by inversion I found $C = -14'',50$. |
| 12 | 1,95 | 1 3,66 | 15,61 | • by inversion 1 lound 0 = 11,50. |
| 15 | 1,90 | 13,08 | 14,98 | |
| 18 | 1,36 | 13,08 | 14,44 | \boldsymbol{y} |
| 81 | 2,41 | 11,44 | 13,85 | Mean = -15,07 |
| 24 | 1,04 | 14,44 | 15,48 | P = -0.70 |
| 0.5 | 0.00 | 11.02 | 10.01 | $\therefore C = -14,37$ |
| 27 30 | 0,88 1, 38 | 11,93 11,93 | 12,81 13,31 | |
| May 3 | 0,78 | 12,35 | 13,13 | |
| May 3 6 | 0,75 | 12,35 | 13,10 | |
| 9 | 0,66 | 12,93 | 13,59 | TM 6 7 10 00 |
| 12 | 0,27 | 12,43 | 12,70 | Mean of $7 = -13,09$ P = -0,70 |
| 15 | 0,25 | 13,25 | 13,00 | $ \begin{array}{ccc} P &\equiv & -0.70 \\ C &= & -12.39 \end{array} $ |
| 7.0 | -LO 07 | 77 // | 71 57 | Hot land winds set in. |
| 18 21 | +0.07 0.74 | 11,44 10,83 | 11,51 11,57 | LIOU IAMA WIMAS SEL III. |
| 24 | 1,00 | 10,63 | 11,67 | |
| 27 | 0,16 | 10,94 | 11,10 | |
| 30 | 1,84 | 11,52 | 13,36 | |
| June 2 5 | 2,69 | 10,73 | 13,42 | |
| 5 | 0,93 | 11,19 | 12,12 | Mean of $10 = -11,94$ |
| 8 11 | 0,78 0,55 | 11,44 | 12,22 | P = -0.70 |
| 14 | 0,07 | 11,11 10,70 | $11,66 \\ 10,77$ | $ \begin{array}{c} P = -0.70 \\ \therefore C = -11.24 \end{array} $ |
| | , v, v | ٠,٠٥ | | |
| 17 | 1,12 | 11,35 | 12,47 | |

| 1837. | L+P | Ref. Col. 2 or C+L | Diff. or C+P | Remarks, &c. |
|--|--|--|--|---|
| June 20 23 26 | +0.58 1.28 | | - 11,85 13,05 | |
| July 2 July 5 8 11 14 | 0,74 0,95 | 11,44 11,10 11,44 10,45 11,60 11,11 10,86 | 12,67 12,07 12,16 11,55 12,34 12,06 12,07 | Mean of $10 = -12,23$ P = -0,70 |
| 17 20 23 26 29 August 1 4 7 10 13 16 19 22 25 28 31 | 0,88 1,47 1,48 1,42 1,03 0,84 1,82 2,41 1,64 1,73 1,83 1,90 1,38 1,50 1,86 | 11,11 11,60 10,37 10,29 10,13 10,94 10,62 10,29 10,29 10,78 11,44 11,52 10,45 9,46 10,86 11,27 | 11,99 13,07 11,85 11,71 11,16 11,78 12,44 12,70 11,93 12,51 13,27 13,42 11,83 10,96 12,72 13,09 | ∴ C = −11,53 On this day I left Madras, for the purpose of making observations of the magnetic dip and intensity, towards the South, along the coast of India; the observations of the reflecting collimator were made during my absence by Ragavachariar Bramin. Mean of 16 = −12,28 P = −0,70 C = 11,58 |
| Sept. 3 6 9 12 | 1,45 | 13,58 13,17 13,99 13,83 | 14,63 14,92 15,44 15,23 | I should hesitate to employ these numbers, from the strong probability they exhibit of error having been committed in the readings of the reflecting collimator—were it not that |
| 15 18 21 24 27 30 Oct. 3 6 9 12 15 18 21 24 27 30 | 1,26 0,91 0,84 1,60 0,50 2,17 2,26 2,13 1,90 1,87 2,60 2,50 2,38 2,60 | 12,10 12,27 11,62 10,29 11,60 11,44 11,77 12,11 11,52 11,44 11,19 11,69 10,62 10,86 11,02 10,94 | 13,49 13,53 12,53 11,13 13,20 11,94 13,94 14,37 13,65 13,34 13,06 13,96 13,22 13,36 13,40 13,54 | the following note is appended to the observation of the 3d September by the Assistant Ragavachariar Bramin. "The equal distances from wire to wire is broad than before."* |
| Nov. 2 | 6,78 | 5,67 5,67 | 12,45 12,49 | Mean of 18 = $-13,14$ P = -0.70 ∴ C = $-12,44$ |

^{*} Given verbatim et litteratim from the Level Book.

| 1837. | L+P | Ref. Col. 2 or C+L | Diff. or C+P | Remarks, &c. |
|--|---|---|--|--|
| Nov. 8 11 14 17 20 23 26 29 Dec. 2 5 8 11 14 17 20 23 26 29 23 26 29 | +6,74 5,90 5,56 5,10 4,78 5,18 5,29 5,00 5,09 4,99 5,33 5,70 3,58 2,85 2,25 2,50 2,40 1,99 | 5,18 5,34 5,18 6,00 6,50 5,89 5,51 5,67 5,51 5,43 5,87 5,95 7,90 7,98 10,12 9,79 9,79 9,79 | 11,92 11,24 10,74 11,10 11,28 11,07 10,80 10,67 10,60 10,42 11,20 11,65 11,48 10,83 12,37 12,29 12,19 11,45 | Mean of $18 = -11'',29$ P P $= -0'',70$ C $= -10'',59$ |

In the reduction of the observations, these mean values of C, together with the reduction to the centre wire (given at pages 1—3), and the correction for Diurnal Aberration, have been applied to each observation; thus, for any day in December 1837, the correction in time $= \frac{.706 + .053 + .020}{\sin N. P. D.} = \frac{0.779s}{\sin N. P. D.}$

ERROR OF AZIMUTH.

If the Transit Telescope be directed to the north horizon, the viviation of the centre wire from the meridian mark is represented by N+C, (where C represents the error of collimation); and, if a represent the angular deviation of the meridian mark from the meridian,—

The deviation of the centre wire from the Meridian as exhibited by the North Mark will be $= \pm a \pm N \pm C$ similarly——South Mark will be $= \pm a^{\dagger} \pm S \mp C$ and the mean result will be $a = \pm a \pm a^{\dagger} \pm N \pm S$

In Volume III p. 20, the value of $a = a^1$ was found 93",52, and, since we have found (page 5) the value of $a + a^1$ to be 26",03, we may state the North

Mark to be situated 33",74 to the West of the Meridian, and the South Mark to be situated 59",77 to the East of the Meridian.

The observations of 1836 furnish a few transits of Polaris with which we will now re-examine the above values—

| P | (| T | A | \mathbf{R} | I | S | |
|---|---|---|---|--------------|-----|----|--|
| ı | V | 1 | | . 1. L | . 1 | IJ | |

| 1835 | Observed | Clock Error. | ation | Correct | tion for | Mean Right Ascension |
|---------------------------------|--------------------------------------|---|---|---------------|-------------------|--|
| | Transit. | - 5g 점 | Aberration &c. | Level. | Colli- mation. | January 1, 1836. |
| Dec. 24 28 26 27 28 | 2,99 7,27 7,17 8,99 9,71 | m. s. —I, 10,27 12,90 15,15 15,98 17,37 18,10 | s. +3,99 4,81 5,61 6,38 7,13 7,82 | s. —2,47 | s. +23,75 | h. m. s. 1 1 17,87 + a × 2,370 16,19 a^{i} — 19,01 a^{ii} — 18,85 a^{iii} — 20,03 a^{iv} — 20,71 a^{v} — |
| 30 31 1836 Jan. | 6,82 8,53 | 20,80 21,83 | 8,50 9,20 10,64 | — 2,31 | +25,44 | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ |
| 4 6 7 8 | 9,50 4,33 3,83 59,27 | 22,82 23,48 23,23 22,20 20,62 18,08 | 11,40 12,19 13,91 14,80 15,69 17,39 | | | $egin{array}{cccccccccccccccccccccccccccccccccccc$ |

where a^i , a^{ii} , &c. represent the Azimuth errors in seconds of space.

POLARIS. S. P.

| 1835. | Observed Transit. | Clock Error. | Aberration &c. | Correc | tion for Collimation. | Mean Right Ascension January 1, 1836. |
|--|--|---|--|------------|------------------------|--|
| Dec. 25 26 27 23 29 30 1836 Jan. 1 3 5 | 22,95 23,31 21,48 24,53 27,82 28,93 27,67 26,88 | m. s. —1, 14,35 16,15 16,67 17,73 18,55 19,90 21,50 23,24 23,30 22,71 | s +5,21 6,00 6,75 7,47 8,16 8,85 10,29 11,80 13,48 14,36 | s +1,95 | s. —23,75 —25,44 | h. m. s. $13\ 0\ 54,07\ -a^{i}$ $\times\ 2,408$ $51,00\ a^{ii}$ $$ $51,59\ a^{iii}$ $$ $49,42\ a^{iv}$ $$ $52,34\ a^{v}$ $$ $54,97\ a^{vi}$ $$ $52,62\ a^{x}$ $$ $53,45\ a^{xii}$ $$ $57,39\ a^{xiii}$ $$ |

We have found above, that any value $a = \frac{a+a'}{2} + \frac{N+S}{2}$; in which,—substituting for $\frac{N-S}{2}$, the values found at page 10 &c. we determine.

| 1835 | December | 24 | a | - | 42,27 | | $\frac{\alpha - \alpha'}{2}$ |
|------|----------|----|--------------------|-----|-------|---|---|
| | | 25 | a^{i} | | 42,27 | | |
| | | 26 | a^{ii} | == | 41,25 | - | |
| | | 27 | a^{iii} | == | 41,33 | | |
| | | 28 | a^{iv} | | 41,45 | | |
| | | 29 | $\overline{}}}$ | == | 41,43 | | - |
| | | 30 | a^{vl} | | 41,26 | | |
| | | | a^{vii} | | 41,23 | - | salesium edocuri |
| 1836 | January | | a^{vili} | === | 41,29 | | *************************************** |
| | _ | | a^{ix} | == | 41,28 | | *************************************** |
| | | _ | a^{x} | == | 41,43 | - | - |
| | | 4 | a^{xi} | == | 41,33 | | - |
| | | | a^{xii} | == | 41,46 | | |
| | | | a^{xiii} | | 41,34 | | * |
| | | | a^{xiv} | == | 41,30 | | |
| | | | a^{xv} | | 41,36 | | |
| | | 10 | a^{xvi} | | 41,35 | - | - |

employing these values of a, a^1 &c. with the above observations, we obtain the

MEAN A. R. OF POLARIS, JAN. 1, 1836.

From observations at the superior From observations at the inferior culmination.

n. s.

h. m. s. $a-a^1$

*1 1 19,03 + $\left(41,46 - \frac{a-a^1}{2}\right) \times 2,370 = 1$ 0 53,10 — $\left(41,45 - \frac{a-a^1}{2}\right) \times 2,408$ from which we readily deduce $a-a^1 = 93'',76$; or a = 33'',87 and $a^1 = -59'',89$, agreeing very nearly with the hitherto supposed values. In the reduction of the Observations from January 1st to March 16th 1836, the Azimuth correction has consequently been computed from the formulæ $\frac{N-S-93'',76}{2}$

For the remaining days of the month of March, and up to the end of October 1836,—in consequence of the difficulty of keeping the South Mark in view, (as has been already explained), the distance of the centre wire from the North Mark, or $a \pm N \pm C$ only, was observed; (in which, a has been assumed 33", 87 as just found, and the values of C have already been given at page 11 &c). On the 3d November 1836,—being deprived of the means of measuring the distance of the centre wire from the meridian mark,—as a temporary measure, I adjusted it to the eastern side of it, (as being more nearly in the meridian than its centre); finding however that the azimuth corrections was still inconveniently large,—on the 22d November the Instrument was adjusted to a temporary circular disc, which I had caused to be affixed to the pier which had hitherto supported the old mark; I had intended to have placed this new mark "in the meridian", but from some mistake in the measurement, an alteration of only half the required amount was made;—to remedy this, on the 8th December

^{*} Mean A. R. January 1, { 1836 1 1 6,06 1837 22,15

1836, I adjusted the instrument to another mark—(a parallelogram), which I had caused to be permamently affixed to the pier, at a still further distance from the old mark, towards the east; this being conveniently situated,—from the 8th December 1836 I have continued to adjust the centre wire when necessary to the mark, instead of measuring as hitherto its distance from it. Calling a", the azimuth from the meridian, of the side of the old mark, to which the instrument was adjusted from the 3d to the 22d November inclusive; a', the azimuth of the circular disc employed from 23d November 1836 to 17th January 1837, and a, the azimuth of that since employed we can,—from the observations of *Polaris* made about this time, compute their values.

POLARIS.

| 1836 | Observed Transit. | Clock Error. | Aberration &c. | | tion for | Mean Right Ascension |
|--|--|---|---|--------|-------------------|--|
| | | | Aber | Level. | Colli- mation. | January 1, 1837. |
| Nov. 7 9 10 11 12 | h. m. s. 1 0 31,00 0 39,00 0 45,00 0 47,00 0 49,00 | | | | •••• | h. m. s. 1 1 49,80 $-\alpha^{"}$ × 2,368 50,07 $-$ 52,53 $-$ 52,34 $-$ |
| Dec. 5 | 1 18,00 1 23,65 | 1 19,65 0 24,78 0 19,50 0 16,60 | 4,56 3,93 | | •••• | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ |
| 10 11 12 17 18 19 20 21 23 24 26 31 1837 | 1 23,00 1 25,00 1 25,10 1 21,00 1 16,00 1 10,00 1 8,00 1 0,00 59 56,00 59 50,00 59 28,00 | 1 10,12 1 13,67 1 17,22 1 24,46 1 27,88 1 34,52 1 49,40 | 0,72 0,05 + 3,42 4,12 4,82 5,55 6,28 7,77 8,50 9,98 13,81 | | | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ |
| Jan. S | 59 19,00 59 15,00 59 12,00 6 1 2 12,00 7 2 14,00 8 2 8,50 9 2 6,17 0 2 10,50 1 2 5,28 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 16,21 17,01 17,81 18,59 19,40 20,20 20,20 20,99 21,78 | | | 28,79 — — — — — — — — — — — — — — — — — — — |

POLARIS S. P.

| | Ol | bse | rved | خ | r. | ation: | Correct | ion for | Mean Right Ascension |
|-----|--------------|--|----------|---|----------------------|--|--|---|-----------------------------------|
| 6 | | - | | S | Erre | Aberr &c | Level. Collimation. | | January 1, 1837. |
| | | | | i | | s. | | | h. m. s. |
| , | | | | | | | • • • • | 1 | $13 \ 1 \ 17,11 - a \times 2,408$ |
| | $12 \ t$ | 59 | 30,00 | 1 | 36,00 | 10,37 | | | 16,37 — |
| 7 | | | | | | | | | |
| 2 | $12 \cdot 3$ | 59 | 14,00 | 1 | 53,75 | 15,81 | | | 23,56 — |
| 3 | | 59 | 13,00 | 1 | 55,00 | 16,61 | | | 24,61 — |
| 4 | | 59 | $3,\!25$ | 1 | 56,32 | 17,41 | | | 16,97 — |
| 5 | 13 | 2 | 4,33 | —1 | 3,63 | 18,20 | | | 18,90 — |
| 6 | | 1 | 59,00 | 1 | 1,95 | | | | 16,04 — |
| | | 1 | 52.17 | 1 | | | | ١ | 11,35 — |
| | | | |) | | , | i | | 12,52 — |
| | | | | | | | | | 18,78 — |
| | | | | | | | | | 16,71 — |
| | | | | R. | | | 1 | | 18,84 — |
| - 1 | | • | .,,,,,,, | | 0 1,00 | ~~,~' | | | 1 |
| | 2 3 4 | 20 13 26 12 4 7 2 12 4 5 13 6 7 8 9 10 | Tran 20 | h. m. s. 20 13 0 55,75 26 12 59 30,00 7 2 12 59 14,00 3 59 13,00 4 59 3,25 5 13 2 4,33 6 1 59,00 7 1 52,17 8 1 51,25 9 1 55,25 10 1 50,75 | h. m. s. m 20 | Transit. Comparison Compar | h. m. s. m. s. s. 20 13 0 55,75 +1 15,44 +5,92 26 12 59 30,00 1 36,00 10,37 17 2 12 59 14,00 1 53,75 15,81 3 59 13,00 1 55,00 16,61 4 59 3,25 1 56,32 17,41 5 13 2 4,33 -1 3,63 18,20 6 1 59,00 1 1,95 18,99 7 1 52,17 1 0,62 19,80 8 1 51,25 3 59,32 20,59 9 1 55,25 0 57,85 21,38 10 1 50,75 0 56,21 22,17 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | h. m. s. m. s. s. |

Taking the mean, we have from

Mean A. R. Polaris January 1, 1837.

| | | | | h. | m. | S. | |
|----|---|---------|---------|----|----|-------------------------------|-----|
| 5 | observations above Pole | | | 1 | 1 | $51,50 \pm a'' \times 2,5$ | 368 |
| 3 | | | • • • • | 1 | 1 | $40,81 \pm a' \times 2,3$ | 370 |
| 23 | Military Communication of the | **** | | 1 | 1 | $30,28 \pm \alpha \times 2,3$ | 370 |
| 12 | ——— below — | * * * * | | 13 | 1 | $17,65 \pm a \times 2,4$ | 108 |

for the determination of a'' and a' we must now employ the already found mean plan for January 1, 1837 = 1h. 1m. 22,15s.

when
$$a'' = 12'',40$$
 West $a' = 7'',87$ — $a = 2'',64$ —

As a confirmation of the value of a, I have lately measured the angular distance between the old mark and the one now in use, when, from the mean of several measures —

The new mark appeared to be situated 31",29 to the East of the old mark.

The old mark we have found to be 33",87 West of the meridian.

... The new mark is situated 2'',58 West of the meridian.

And for a confirmation of the situation of the mark which gave rise to the value a'',—this I find to be situated 21'', 97 East of the old mark.

The old mark is situated 33",87 West of the meridian.

 $\therefore a'' = 11'',90 \text{ West of the meridian.}$

We will now proceed with the values of N & S given at page 11 &c. to compute the values of (A,) the deviation in Azimuth—

| 1836 | 5 | N_S | A or N.—S—93",76 | Remarks, &c. | 1836 | N—S | A or N—S—93",76 | Remarks, &c. |
|------|----------------------|-----------------------------|------------------|--|---------|---------|-----------------------|------------------------------|
| | | / // | " | 1 | | 1 11 | " | |
| | | 1 22,59 | 5,58 | | Feb. 4 | 1 22,36 | 5,70 | |
| lan. | 1 | | <u>5,56</u> | | 5 | 22,29 | 5,73 | |
| | 2 | 22,56 | 5,45 | | 6 | 22,60 | 5,58 | |
| | 3 | $22,86 \ 22,66$ | 5,55 | | 7 | 22,50 | 5,63 | |
| | 4 | 22,93 | 5,33 5,41 | | 8 | 22,47 | 5,64 | |
| | 5 6 | 22,69 | 5,53 | | 9 | 22,49 | 5,63 | |
| | 7 | $\frac{22,09}{22,59}$ | 5,58 | 4 . | 10 | 22,50 | | Mean of $10 = -5'',63$ |
| | | 22,39 $22,73$ | 5,51 | | 11 | 22,64 | 5,56 | 1 |
| | 8 9 | $\frac{22,73}{22,83}$ | 5,31 5,47 | | 12 | 22,93 | 5,41 | |
| | 10 | $\frac{22,63}{22,70}$ | 5,53 | Mean of $10 = -5'',21$ | 13 | 23,34 | 5,21 | |
| | 11 | 22 ,70 22 ,50 | 5,63 | 1 | 14 | 23,04 | 5,36 | |
| | 12 | 22,63 | 5,56 | | 15 | 23,58 | 5,09 | |
| | 13 | 22,03 $22,74$ | 5,51 | | 16 | 23,50 | 5,13 | |
| | 14 | 22,74 22,35 | 5,70 | | 17 | 23,54 | 5,11 | |
| | 15 | 22,08 | 5,84 | | 18 | 23,44 | 5,16 | |
| | 16 | 22,24 | 5,76 | | 19 | 23,21 | 5,27 | Mean of $9 = -5^{\circ},26$ |
| | 17 | 22,32 | 5,72 | | 20 | 24,59 | 4,59 | I took out the objec |
| | 18 | 21,94 | 5,91 | | 21 | 24,95 | | glass to clean it. |
| | 19 | 21,87 | 5,94 | | 23 | 25,30 | 4,23 | |
| | 20 | 22,12 | 5,82 | Mean of $10 = -5'',74$ | 24 | 24,32 | 4,72 | |
| | 21 | 22,42 | 5,67 | | 25 | 24,62 | 4,57 | · |
| | $\tilde{2}\tilde{2}$ | 22,32 | 5,72 | | 26 | 24,38 | 4,69 | |
| | 23 | 22,19 | 5,78 | and the second second | 27 | 24,46 | 4,65 | |
| | 24 | 22,70 | 5,53 | and the second second | *28 | 24,28 | 4,74 | |
| | 25 | 22,18 | 5,79 | | 29 | 24,06 | | |
| | 26 | 22,32 | 5,72 | | March 1 | 23,87 | 4,94 | 7 |
| | 27 | 22.53 | 5.61 | · | 2 | 24,00 | | |
| | 28 | 22,53 | 5,61 | | 3 | 24,14 | | |
| | 29 | 22,80 | 5,48 | | 4 | 24,06 | | |
| | 30 | 22,70 | 5,53 | Mean of $10 = -5^{\circ},64$ | 8 | 23,62 | | |
| | 31 | 22,73 | 5,51 | au central computer (i.e., in contral computer (i.e., in contral contr | 10 | 23,93 | | |
| Feb. | î | 22,49 | 5,63 | The second secon | 15 | 23,82 | | |
| | 2 | 22,42 | 5,67 | | li 16 | | 1 | Mean of $17 = -4^{\circ},75$ |

The South Mark being invisible (by reason of trees having grown in the way) the observation of the North Mark only will be attended to in future.

| 1836 | N | C | N—C— 33",87 = A | REMARKS. | 1836 | N | C | N-C- 33'',87 = A | REMARKS. |
|---|---------------|---|---|----------|--|----------------------------------|-----|---|------------------------|
| Mar. 22 23 24 25 26 28 29 | 38,32 $38,42$ | | -4,07 4,37 4,10 4,17 4,07 4,31 4,41 | | Mar. 30 31 April 1 2 3 4 5 | 38,39 38,39 38,32 38,18 | • • | -4,17 4.20 4,10 4,10 4,17 4,31 4,31 | Mean of $10 = -4'',20$ |

| 1836 | N | C | N—C— 33″,87 = A | Remarks. | 1836 | N | С | N-C- 33",87 = A | Remarks. |
|------|--|------|--|---|------|--|-------|--|--|
| | N + 38,15 38,46 38,35 38,35 38,35 38,35 38,35 38,35 38,35 38,49 38,49 38,49 38,49 38,49 38,49 38,49 38,49 38,49 38,49 38,49 38,40 41,60 41,60 41,60 42,86 43,86 43,8 | 9,16 | 33",87 = 4.24 4.34 4.44 4.45 4.46 4.31 4.46 4.31 4.46 4.32 4.32 4.32 4.33 4.25 4.33 4.45 4.37 4.37 4.37 4.46 4.37 4.46 4.37 4.46 4.37 4.46 4.37 4.46 4.37 4.46 4.37 4.46 4.37 4.46 4.37 4.46 4.37 4.46 4.37 4.46 4.37 4.46 4.37 4.46 4.37 4.46 4.46 4.37 4.46 4.37 4.46 4.46 4.46 4.46 4.47 4.46 4. | Remarks. Mean of $10 = -4$,27 Mean of $10 = -4$,38 Mean of $10 = -4$,37 Mean of $8 = -4$,39 | | +43,13 43,31 43,34 43,34 43,34 43,36 43,36 43,56 43,56 43,56 43,56 43,24 43,31 43,13 42,65 42,89 42,89 42,89 42,89 42,96 42,89 43,13 43,13 43,13 43,24 43,13 43,24 43,13 43,24 43,13 43,31 43,31 43,31 43,31 43,59 43,41 43,59 43,41 43,59 43,41 43,59 43,41 43,59 43,41 43,59 43,41 43,59 43,41 43,59 43,41 43,59 43,41 43,59 43,41 43,59 43,76 43,76 43,76 43,76 | 11,59 | 33",87 = 3,25 3,07 2,19 2,11 1,98 2,19 2,26 1,98 1,76 1,76 2,08 1,87 1,76 2,08 1,87 2,19 2,40 2,40 2,40 2,46 2,36 2, | Mean of $10 = -3'',45$ Mean of $10 = -2'',39$ Mean of $10 = -2'',47$ |

| 1836 | N | С | N—C— 33",87 = A | Remarks. | 1836 | N | c | N—C— 33'',87 = A | Remarks. |
|--|---|-------|--|--|--|--|-------|---|---|
| July 21 22 23 24 25 26 27 28 30 31 Aug. 12 34 56 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 28 29 30 | + 43,66 43,54 43,58 43,59 43,69 44,14 | 12,16 | 33",87 = 1,80 1,92 0,73 0,89 0,71 0,68 0,64 0,68 0,79 0,61 0,96 0,93 0,75 0,93 0,75 0,93 0,58 0,93 0,58 0,93 0,58 0,93 0,58 0,40 0,58 0,58 0,40 0,58 0,58 0,58 0,40 0,58 0,58 0,58 0,61 0,58 0,64 0,58 0,64 0,58 0,61 0,58 0,64 0,64 0,75 0,68 0,68 0,75 0,68 0, | Mean of $10 = -0$ ",67 Mean of $10 = -0$ ",83 Mean of $10 = -0$ ",52 | Sep. 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 Oct. 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 | #43,21 43,31 43,13 43,00 42,89 42,77 43,28 43,03 43,17 43,20 43,03 43,31 43,33 43,31 43,33 43,31 43,33 43,31 43,33 43,31 43,33 43,31 43,33 43,06 42,88 43,39 43,00 43,38 42,96 43,13 43,62 39,18 39,28 39,45 39,55 39,55 39,55 39,52 39,76 40,46 39,76 39,93 39,79 39,52 39,93 | 10,55 | 33",87 = A -2,82 2,72 2,90 3,03 3,14 3,26 2,75 3,00 2,83 3,00 2,72 3,00 2,65 2,72 2,59 2,66 2,72 3,00 2,65 2,72 3,00 2,65 2,72 3,00 2,65 2,75 3,00 2,65 2,75 3,00 3,00 3,00 3,00 3,00 3,00 3,00 3,0 | Mean of $10 = -2^{\prime\prime},75$ Mean of $10 = -2^{\prime\prime},88$ |
| 31 Sep. 1 2 3 4 5 6 7 | 43,90 43,21 43,48 43.55 | | 1,96 1,95 2,16 2,13 2,82 2,55 2,48 2,27 2,82 | Mean of $7 = -1^{\prime\prime},96$ | 22 23 24 25 26 27 28 29 | 39,79 39,59 39,67 40,03 40,18 40,36 | | 4 56 4,63 4,83 4,65 4,39 4,24 4,06 4,76 | |

^{*} This is omitted in taking the Mean.

On the 3rd November 1836 the centre wire was brought to touch the edge of the North mark; hence, from this date up to the 21st November 1836 the Instrumental error in Azimuth was North 12",40 West.

On the 22d November I adjusted the centre wire to bisect a mark which had been erected to the East of the above;—hence, as has already been shewn;—from this date up to the 7th December 1836 the Instrumental error in Azimuth was North 7",87 West.

On the 8th December the Instrument was adjusted to a perman ent mark, which I had caused to be erected nearly in the direction of the meridian, upon the old Northern Pier; hence;—

from the 8th December 1836 to 17th January 1837 the Instrumental error in Azimuth was

In the intervals just alluded to, the coincidence of the centre wire with the mark was examined every day at Sun rise and Sun set, and on two occasions—On January 6th, and 8th, a small correction of the bisection was made for a deviation to the East of the meridian.

Since the 18th January 1837, the coincidence of the centre wire with the mark has been examined every day at Sun rise and Sun set, and adjustment made when necessary; hence, if C represent the error of Collimation, the Azimuth error A=C± 2",64; thus—

| 1837. | C " | A | |
|--------------------|--------|---------------|---|
| Jan. 18 to Feb. 10 | -10,78 | — 8,14 | I increased the Collimation, and consequently the Azimuth- |
| Feb. 10—April 26 | 14,37 | 11,73 | In this interval no adjustment to the mark was found neces- sary. |
| April 27—May 15 | 12,39 | 9,75 | On the 27th April an adjustment was made for a deviation of about 2" to the East of the N. Meridian. |
| May 16—June 14 | 11,24 | 8,60 | In this interval no adjustment to the mark was found neces- sary. |
| June 15—July 14 | 11,53 | 8,89 | On the 25th June at Sun set, adjustment was made for a deviation of about 1" to the West of the N. |
| July 15—Aug. 31 | 11,58 | 8,94 | Observed by my head assistant Ragavachariar—No adjustment to the meridian was necessary during this period. |
| Sep. 1—Sep. 12 | 15,06 | 12,42 | Observed by Ragavachariar (see p. 16.) but no adjustment necessary—It happens fortunately, that during this doubtful period, it was very cloudy weather. |
| Sep. 13—Nov. 5 | 12,44 | 9,80 | Up to October, 15th, the observations were made by Raga-vachariar—to whom I had entrusted them during my absence, with orders not to attempt an adjustment, but to make an estimate of the errors if any:—his remarks are as follows— |
| | | | "Sepember 21st morning being Astronomical day—The centre wire does not bisect the mark". appended to this is a drawing of the appearance of the mark and wire, from which I estimate that a deviation of 1" to the East |

| | Distriction | then existed; but on the evening of the same day he remarks— |
|----------------|-------------|--|
| | | "22nd We can not find that difference but it was seen |
| Nov. 6—Dec. 31 | 10,59 | 7,95 An adjustment was made on the 13th for a deviation of about 1" to the West. |

REDUCTIONS EMPLOYED.

The places of the known stars have been corrected for Aberration, Nutation, and Precession, from the values of a, b, c, d, &c. given in the Royal Astronomical Society's Catalogue, in conjunction with those of A, B, C, D, furnished in the Nautical Almanac; save that a correction has been made when necessary to adapt these latter values to the instant of the Star's Transit.

The table of Refractions employed, is that constructed by Mr. Henry Atkinson, and printed in the 2d Volume of the Astronomical Society's Memoirs, using the "in door" thermometer:—The remaining corrections for the Sun or Planets, have been derived either from the Nautical Almanac, or from Mr. Baily's Astronomical Tables.

In the reduction of the Moon's Place, the ratio of the Polar and Equatoreal Axes of the Earth has been taken at 299: 300

from which we get the angle of the vertical = 5' 0"

Radius of the Earth = ,999825

ERROR AND RATE OF THE TRANSIT CLOCK.

The error of the Transit Clock has been determined with reference to the Madras Results given in Vol. II; selecting those stars only which have been frequently observed—which are situated near to the Equinoctial, and which differ less than one tenth of a second from the Greenwich Catalogue.*

In general it has been my custom to divide the hours of observing into "watches" of three hours each, and to observe during each watch three of these

^{*} The Greenwich Catalogue here alluded to, refers to that of 720 Stars for 1830, published in 1829 or 1830—there have I believe been later catalogues issued from the Greenwich Royal Observatory, but I have not been so fortunate as to obtain a copy.

stars for the determination of the Clock Error;—by this arrangement, any irregularity in the going of the Clock is rendered of little consequence, since the rate is trusted only for one and a half or two hours at most; with regard to the Sun, and the Planets Mercury and Venus,—it frequently happens from clouds or haze that no star has been observed within 6 or 8 hours of their passage; in this case—when the rate has appeared irregular, I have cancelled the observation. In the comparison of the errors of the Clock on one night, with those of another, for the rate, as well as in their employment for the determination of the places of the unknown Stars, it has always been my custom to compare the results of each observer with his own observations only; by which means, the direct influence of personal equation is avoided; from a recent examination however, I am happy to find, that this perplexing and unaccountable source of error, reaches to a very trifling amount in the observations composing the present volume.

In a former volume I mentioned having endeavored to exclude insects from the works of the clock, by making the case as nearly as practicable air tight; in this particular however I have since been compelled to relax a little, in consequence of the extremely faint beat of the clock being lost by the unavoidable noise of the observer at the circle, or by the least noise of natives or conveyances passing in the road; the result has been that on two occasions during the last two years, I have been able satisfactorily to account for the ill going of the clock by finding a spider's line attached to the pendulum; at other times -other causes apparently have operated; thus, on the 27th January 1836 the clock was cleaned, when from some cause not apparent, it continued to lose on its rate until the 8th March, when it was regulated; after this it continued to lose further upon its rate until the 1st May, when the thick state of the oil upon the escapement was the only apparent circumstance to account for the previous ill going; the oil I had applied was ordinary salad oil, but the temperature of from 95 to 105 Fahrenheit (which is usual for several hours during the day at this time of the year) fully accounts for its having become thick.

| 1836 | Daily Rate. | Remarks. | 1836 | Daily Rate. | Remarks. |
|--|----------------|--|---|---|------------------------|
| Jan. 3 4 6 7 8 9 10 11 13 14 15 16 17 18 19 20 21 22 23 24 25 27 28 29 30 31 Feb. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 | * +1,01 | On cleaning the Clock I found a spider's line attached to the pendulum. Wound up the Clock. | Feb. 25 26 27 28 29 Mar. 1 2 3 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 25 26 27 28 29 30 31 April 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 | s. -4,88 3,96 3,72 4,71 4,92 5,18 4,99 4,81 5,48 5,46 +1,01 +0,18 -0,31 5,53 5,61 2,69 2,33 3,16 2,83 2,35 3,48 4,02 4,23 4,18 4,59 4,77 4,72 4,99 4,94 5,36 5,25 4,59 4,45 4,46 4,88 5,07 5,04 5,10 | I regulated the Clock. |

| 1836 | Daily Rate. | Remarks. | 1836 | Daily Rate. | Remarks. |
|----------------------------|--|---|------------------------------|---|--|
| April 18 19 20 21 | s. 5,77 5,38 4,77 | | June 19 20 28 30 | s. 4,67 4,25 4,95 | |
| 22 23 24 25 | 4,57 4,88 4,98 | | July 3 4 9 10 | 4,73 3,05 3,84 4,25 3,52 | |
| 26 27 28 29 30 | 5,05 5,38 5,51 5,83 -5,04 | Oil thick—cleaned and re- | 14 15 16 17 18 | 3,95 4,70 4,35 5,22 2,22 | Regulated the Clock. |
| May 1 2 3 4 | +2,51 $2,76$ $2,33$ $2,33$ | gulated the clock. | 19 22 26 27 | 2,25 2,47 2,90 1,63 | |
| 5 6 8 9 11 | 3,13 2,86 2,86 2,86 3,40 5,75 | | 28 30 Aug. 2 4 9 | 0,90 0,92 0,08 0,03 +0.96 | Continued cloudy weather. |
| 15 16 18 19 20 | 3,29 -5,75 4,17 4,02 | Wound up the clock, put it back 3 minutes and regulated it. | 10 11 14 16 17 | 1,72 1,45 1,65 2,13 2,75 | |
| 21 22 23 24 | 4,27 4,70 4,00 3,99 | | 19 21 23 27 | 2,21 2,59 3,51 4.88 | |
| 25 26 28 29 30 | 4,29 3,97 4,31 4,40 4,33 | | Sep. 28 7 8 9 | $\begin{vmatrix} 4,54 \\ -4,26 \\ 3,22 \\ 3,64 \end{vmatrix}$ | Continued cloudy weather, I regulated the clock. |
| 31 June 1 5 6 | 4,36 3,99 4.07 3,86 | | 10 11 12 13 | 2,40 2,54 1.94 1,55 | |
| 7 8 9 10 | 4,49 4,69 4,46 5 00 5,04 | | 14 15 16 20 21 | 1,80 0,59 1,75 2,02 1,96 | |
| 12 13 14 15 | 5,17 5,38 5,02 5,12 | | 23 24 25 26 | 2,78 1,81 2,75 2,15 | |
| 17 18 | 4,00 4,70 | | Oct. 30 | 2,00 2,66 | |

| 1836 | Daily Rate. | REMARKS. | 1836 | Daily Rate. | Remarks. |
|---|--|--|---|---|--|
| Oct. 2 3 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 25 26 27 28 Nov. 7 8 9 10 11 12 13 18 22 23 24 25 26 27 28 Dec. 1 2 3 4 5 6 10 11 12 17 18 | s3,12 3,88 2,53 1,70 1,62 2,12 1,69 2,16 2,61 3,16 3,33 2,91 3,10 2,97 0,61 1,33 1,52 1,47 1,70 2,24 2,65 2,80 +2,38 3,53 4,28 4,20 1,26 1,78 3,00 3,20 1,06 1,00 0,92 0,38 0,48 0,78 3,00 2,65 4,38 3,99 4,75 5,13 2,85 0,58 0,70 -3,64 | Mostly cloudy weather. It blew a hurricane on the 31st. Wound up the clock and applied oil to the pallets. Wound up the clock. | 22 23 24 25 26 27 28 29 30 31 Feb. 2 3 4 5 6 7 8 9 10 11 | s. -3,10 3,43 3,60 3,66 3,28 3,43 2,96 1,72 1,59 1,42 1,22 0,87 1,37 1,59 1,17 1,17 1,82 1,46 1,10 3,44 2,00 2,19 1,83 1,30 0,94 0,90 1,35 1,30 0,62 1,07 0,38 1,20 1,07 0,38 1,00 1,00 1,00 1,00 1,00 1,00 1,00 1,0 | Put clock backward three minutes. Wound up the clock. |

| 1837 | Daily Rate. | REMARKS. | 1837 | Daily Rate. | Remarks. |
|---|--|--|---|--|---|
| Feb. 19 20 21 26 27 28 Mar. 1 2 4 5 | s. +0,19 1,38 +0,22 -3,00 3,49 3,74 4,78 5,00 5,00 4,18 4,41 | Continued cloudy weather. | 21 22 23 24 25 26 27 28 | s, -1,80 1,76 1,41 1,51 2,00 1,97 2,35 2,20 2,31 2,25 2,36 | |
| 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 April 1 2 3 4 5 7 8 9 11 12 13 14 15 16 17 17 18 19 19 19 19 19 19 19 19 19 19 19 19 19 | 4,73 3,81 3,92 4,90 5,35 4,490 5,35 4,469 4,37 3,35 4,469 4,37 3,35 4,463 3,12 4,77 5,62 4,71 3,631 4,44 5,75 7,30 6,44 —0,685 7,30 6,49 —1,73 6,49 —1,73 6,49 —1,73 6,49 —1,73 —1,26 —1,25 1,50 | I examined the clock and re- moved a fine thread which had been attached to the pendulum by some mis- chievous spider. | 29 30 May 1 2 3 4 5 9 10 11 12 15 16 17 18 24 28 30 31 June 6 7 8 9 10 11 13 14 16 | 3,00 1,68 2,76 2,45 1,91 1,69 2,16 2,41 2,90 2,47 2,68 2,20 3,07 3,98 2,40 2,40 2,82 3,15 3,44 2,95 3,55 4,36 2,97 2,73 3,55 4,36 | Mostly cloudy weather, peculiar to the S. W. Monsoon. |

| 18: | 37 | Daily Rate. | REMARKS. | 1837 | Daily Rate. | Remarks. |
|------|----------------------|------------------------------|---------------------------|--------------------------|--|------------------------------------|
| July | 16 19 20 | s. -4,41 4,59 4,65 | | Oct. 12 13 | | |
| Aug. | 2 8 9 | 1,50 1,56 1,63 | Continued cloudy weather. | 15 16 17 | 0,08 1,29 | The seconds hand tript in winding. |
| | 10 11 12 | 1,16 1,54 1,50 | | 23 24 25 Nov. 6 | 1,61 1,60 | Continued cloudy weather. |
| | 13 20 21 22 | 1,65 2,31 1,33 | Continued cloudy weather. | 7 8 12 | 1,51 | The seconds hand went |
| | 23 27 28 | 0,58 2,34 1,43 | | 17 21 24 26 | 1,71 3.40 | backwards in winding. |
| Sep. | 29 30 14 15 | 0,65 0,44 2,75 2,60 | | 27 28 29 | 2,90 2,27 2,56 | |
| | 16 17 18 | 2,09 1,77 1,40 | | Dec. 15 | $\begin{bmatrix} 2,39 \\ 2,20 \end{bmatrix}$ | |
| | 19 20 21 | 1,78 1,76 1,78 | | 18 19 20 21 | 2,79 | |
| | 22 23 24 25 | 1,71 1,88 1,38 1,87 | | 24 25 26 | 4,08 2,85 2,57 | |
| | 26 27 28 | 1,01 1,51 0,96 | | 25 25 25 | 2,91 3 2,55 | |
| Oct | | 1,22 | | | | |

METEOROLOGICAL INSTRUMENTS EMPLOYED.

The Barometer employed at the commencement of 1836 and up to the end of October of that year, was a Standard (No. 6.) by Gilbert which—as has been explained in Vol. III., I had been allowed to select from several, which were supplied to the Surveyor General's Department at Calcutta;—the diameter of the tube was 0,22 inches and the zero correction—0,006 inches; rendering necessary to the registered observations, the correction for temperature +0,051—0,006; or, where in the table of refractions allowance is made for

the temperature of the quicksilver,—the correction +,045 is simply necessary.—The thermometers employed during this period were, a Standard by Troughton (which when in England I had carefully compared with the Royal Society's Standard) and one by Jones, which agreed to identity with it; the former being employed outside and the other inside the building. During the Storm on the 31st October neither of these Instruments escaped destruction, so that I had now no remedy left, but that of filling a tube; -accordingly I availed myself of two unbroken glass tubes and cisterns, and the brass scales of the barometers hitherto employed, and set to work as follows; the quicksilver was purified by repeated washings in diluted nitric acid, and was then heated to a temperature little short of boiling water to drive off moisture: the tube was now heated—the hot mercury gradually poured in, and a small air bubble sent up in the usual way to collect stray bubbles: -after filling two tubes in this way with as much care as it was possible to bestow-finding that a difference of less than one hundredth of an inch existed between them, I concluded that with the exception of finding the specific gravity of the mercury; all that was necessary to ensure a good barometer, and accurate results, had been done; accordingly on the 11th December 1836 I commenced to employ one of these barometers, making an allowance of +0,051 for capilliary action (corresponding to abore of 0,22 inches). In the interim between 1st November and this date, a barometer by Tagliabue was employed, whose correction then appeared to be 0,002 inches subtractive.

The Storm had passed away, and its effects had been forgotten in the busy mornings and evenings of the fine months of January and February, and, with the exception of an occasional glance at the two barometers and a feeling of pleasure at their coincidence—no further thought of them was given until the 10th of May: On this day to oblige a friend I had undertaken, after purifying the mercury in his barometer,—to boil it in the tube; (a precaution I had feared to undertake with my own, having no spare tubes): On comparing the barometer thus constructed with the two "Standards", to my utter astonishment, a correction 0,125 inches additive to both of mine, appeared necessary;—at first I felt convinced that the error lay with the newly constructed barometer, but after boiling the mercury in the tubes of the two hitherto supposed Standards, they both exhibited increased readings to the above amount—Since this time I have frequently filled barometer tubes, and have found a coincidence between them and the now considered "Standards" which leaves me confident of not being above 0,01 inches in error. To ascertain at what date this correc-

tion ought to commence, or if its progress had been gradual, I compared the meteorological observations of November 1836 with those of former years* when it was at once evident that the correction was due to all observations since the storm. Hence, in the observations of November 1836, and up to 10th May 1837 the correction +,125 is necessary for zero error, and +,051 for capilliary action, and for subsequent observations, the latter correction only should be employed.

The Thermometers employed since the Storm, are two by Bate, of an ordinary description, which at my request had been sent out to this country for rough purposes by the Honorable Court of Directors: I took the precaution on receiving them (which was a few days before the Storm) to note their difference (at 75°) from the Standard hitherto in use, when neither of them differed more than two tenths of a degree: with this testimony of their accuracy, there need be no fear of their errors at any point in the scale being of importance.

OF THE MURAL CIRCLE.



This Instrument having been minutely described in Vol. I., it is only necessary here to state, that the focal length of the telescope is 49 inches, with a clear asserture of $3\frac{3}{4}$ inches; and that the diameter of the circle is four feet:— The divisions are beautifully cut on a slip of gold (let in upon the circumference of the wheel) to every 5 minutes, and the sub-division of these is effected by four Microscopes situated at 90° apart, viz. two horizontally and two vertically—the readings of each microscope are registered to a tenth of a second, but the error of making a single bisection at either microscope, arising from false light principally, may in some cases amount to 1",5 but generally, I think that the half of this may be stated to be the probable mean error of reading of each microscope.

^{*} The regularity of the barometer in inter-tripical climates will permit this mode of proceedure, whereas in a high Latitude; one, or even two tenths of an inch might be lost sight of in the varied amount of atmospheric pressure which is experienced.

The eye piece is supplied with five vertical and one horizontal fixed wires, and one horizontal moveable wire;—the power employed for astronomical observations is about 120, and for the observation of the collimation, about 70—The stability of the Instrument is equal to any thing that could be desired, a fact, which is well attested, from the circumstance that during the last 4 years I have not had occasion to adjust it either for level or azimuth—and a late examination of the axis, enables me to speak with confidence of its being now after 7 years use, in as good a condition as when it was first erected.

OBSERVATIONS MADE WITH THE MURAL CIRCLE.

In the years 1836 and 1837 the Mural Circle has continued to be employed as heretofore in the measurement of North Polar Distance—taking the mean of the four microscopes at each observation. In the Computation of the Index Error, I have employed the Madras Catalogue published in Vol. II., giving always a preference to those stars which differed the least from the Greenwich Catalogue, and restricting the limit of observations for this purpose to within 20° of the zenith; by this arrangement, the anomaly which has been shewn to exist in the Cambridge Mural Circle (depending probably upon flexure of the horizontal wire)—would here necessarily have but a very trifling effect upon the Index Error; to discover its amount when the telescope was directed to the horizon,—in the year 1835 I availed myself of a plan which has already been described in Vol. III., thus—"I directed the Circle Telescope to the North horizon and opposite to it, (in the window sill of the observatory) placed a 46-inch telescope by Dolland, with its object glass presented to that of the circle telescope, and its whole length disposed in a right line with it;—turning the circle through 180° to the South horizon, I in a similar way disposed another telescope (Dolland's 5 feet):—into the focus of the 46 telescope I had fitted a pair of cross lines, and the 5 feet telescope was supplied with a double wire micrometer-matters thus arranged, I took out the circle eye piece and slide, and unscrewed the object glass, leaving a clear aperture of two inches through the circle telescope, by which means, with the assistance of the micrometer wire,

I was unable to adjust the line of collimation of the 5 feet telescope to parallelism with that of the 46-inch placed in the opposite window, this done I replaced the eye piece, screwed in the object glass, and immediately measured the angular distance between the telescopes; to guard against movement of the telescopes, the observation was not considered complete, till the object glass of the circle telescope had again been removed, and the parallelism of the two other telescopes again examined; but the telescopes having been very securely fixed, no movement whatever was detected during the time of making the observations (about three hours)".

The result of several measurements in this way shewed that the angular distance between the two marks was,-(reckoning from the South horizon in the direction through the Nadir*) = 180° 0′ 0″,38 exhibiting a negative flexure to the amount 0",19. Whether this remained constant or no during the early part of 1836, I have now no means of ascertaining; but on the 27th August, some rain having leaked through the roof, broken the wires, and wetted the inside of the object glass; I availed myself of the necessity of taking out the object glass to repeat the above experiment. Having put in a new set of silk lines;—from the mean of 5 separate measurements; the angle between the South Telescope through the Nadir up to the North Telescope, was 179° 59' 58",88: exhibiting a positive flexure of 0",56 when directed to the horizon:-Since this period no further observations to this end have been made, which has arisen from a desire of not interrupting the observations, and from a fear of accident in taking out the object glass; -enough however has been done, to shew, that the reduction of the observations by using a common Index Error, entails a very trifling amount of error upon the Madras Results-In addition to the Index Error computed from the observed places of known stars, the observations with the Reflecting Collimator have continued to be made three or four times every day; viz. at 0, 6, 12 and 18 hours; by this means a severe check has always been kept upon the Index Error by the stars, and a very accurate knowledge of the difference between the one method and the other determined, of which I have now some idea of availing myself, by giving up the observation of known stars altogether.

[•] Erroneously stated per zen in Vol. III.

| Date. | No. of ob- servations. | Index Error by Stars. | Remarks. | No. of ob- servations. | Index Error by Reflecting Collimator. | Difference. |
|----------|---------------------------|-----------------------------|--|---------------------------|---|--|
| 1836 | 1 | / // | | | 1 19 | |
| Jan. 1 | } 6 | <u></u> 2 11,26 | | | | |
| 2 | | | | 5 | -2 9,51 | 0.26 |
| 3 4 | 7 2 | 10,13 9,22 | | 5 5 | $9,77 \ 10,42$ | -0,36 $+1,20$ |
| 5 | 2 | 3,22 | I took out the axis-cleaned | | 9,58 | 1 1,00 |
| 6 | 2 10 | 7706 | it, and applied fresh oil. | 2 | 17,09 | 0.06 |
| 7 | } 10 | 17,26 | | 2 | 16,91 | } —0,26 |
| 8 | 6 | 14,31 | _ | 5 | 16,83 | +2,52 |
| 9 | \$ 9 | 12,89 | | 5 3 | 15,39 12,58 | _0,31 |
| 10 |) _ | | | 3 | 11,96 | ` [|
| 12 | 6 | 12,48 | Mean = 2' 12",78 | | 1 | }0,52 |
| 13 | 8 | 12,83 | | 4 | 11,85 | _0,98 |
| 14 | 7 | 12,91 |) | 4 | 12,69 | -0,22 |
| 15 | 9 | 11,56 | | 4 | 11,60 | } +0,13 |
| 16 17 |) | | | 4 | 11,78 11,60 | 3 |
| 18 | {10 | 10,55 | · | 4 | 11,90 | } +1,20 |
| 19 | 7 | 10,01 | | 4 | 11,31 | +1,30 |
| 20 | 7 | 8,91 | | 3 | 10,68 | +1,77 |
| 21 | 6 | 9,02 |] | 2 | 8,65 | }0,27 |
| 22 | 3 | ,,,,, | · | 3 4 | 8,85 9,05 | Ì |
| 23 24 | } 10 | 9,19 | Mean = 2' 9'',24 | 3 | 9,50 | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ |
| 25 | 9 | 9,28 | | 5 | 9,23 | ,—0,05 |
| 26 | 5 | 9,34 | | 4 | 9,21 | -0,13 |
| 27 | 8 | 9,68 | J | 4 | 9,68 | 0,00 |
| 28 | 7 | 10,11 | | 4 | 9,91 | -0,20 |
| 29 30 | 7 | 10,16 9,88 | | 3 | 10,20 10,56 | $+0.04 \\ +0.68$ |
| 31 | 5 | 10,17 | | 5 | 9,93 | -0,03 |
| Feb. 1 | 11 | 9,54 | | 3 | 10,75 | +1,21 |
| 2 | 8 | 10,29 | | 4 | 9,46 | -0,83 |
| 3 | 7 | 9,97 | Mean = 2' 10'',01 | 4 | 10,62 | +0,65 |
| 4 | 6 | 9,91 | | 4 4 | 8,03 9,09 | -1,88 $-0,89$ |
| 5 6 | 4 | 9,98 1 0,42 | | 2 | 10,45 | +0.03 |
| 7 | 9 | 9,85 | | 4 | 10,45 | +0,60 |
| 8 | 5 | 10,24 | The state of the s | 4 | 9,40 | -0,84 |
| 9 | 5 | 9,59 | J | 5 | 9,01 | -0,58 |
| 10 | 7 | 9,28 |) | 4 | 9,00 | 0,28 |
| 11 | 4 5 | 8,54 8,59 | | 5 | 8,32 8,79 | -0,22 + 0,20 |
| 12 13 | 5 | 7,98 | Mean = 2' 8'',55 | 5 | 8,11 | +0,13 |
| 14 | 6 | 8,54 | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 5 | 7,50 | -1,04 |
| 15 | 5 | 8,39 | 1 | 4 | 8,12 | 0,27 |
| 16 | 8 | 5,36 | | 4 | 4,40 | -0,96 |
| 17 | 5 7 | 5,66 | TATAL SALES | 4 5 | 4,81 4,38 | -0.85 -1.69 |
| 18 19 | 9 | 6,07 5,95 | Mean = 2' 5'',75 | 4 | 560 | -0,35 |
| 20 | | ,,,,,, |) | 3 | 6,60 | -,55 |
| | | I | | | | |

| Date. | No. of observations. | Index Error by Stars. | Remarks. | No. of ob- servations. | Index Error by Reflecting Collimator. | Difference. |
|-------|---|--|----------|---|--|---|
| | 9 6 6 9 9 7 7 6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 | 7,62 7,62 7,78 6,95 6,29 6,77 7,17 7,59 6,62 7,33 7,12 7,11 7,88 6,89 7,06 6,72 6,68 7,02 6,71 6,73 5,97 6,27 5,73 6,16 6,00 6,98 5,58 6,24 6,50 6,19 5,71 6,65 5,62 6,35 6,44 6,02 | | 55445555555445342534444443454 533335342524534542444 | -2 6,00 5,87 5,98 5,89 5,96 6,27 5,47 5,84 6,12 6,50 5,38 6,22 6,66 5,12 5,08 4,65 5,23 4,24 5,00 5,50 6,02 4,73 5,04 4,75 4,76 4,32 3,37 4,66 4,82 4,33 5,03 3,92 5,508 5,54 6,74 5,94 4,71 5,94 4,71 5,94 4,71 5,94 4,71 5,94 4,71 5,94 4,71 5,94 4,71 5,94 4,71 5,94 4,71 5,94 4,71 5,94 4,71 5,94 6,74 6, | -0,43 -1,10 }-1,69 -2,72 -0,99 -0,02 -0,93 }-0,86 }-1,79 +0,04 -1,77 }-2,02 }-2,17 -3,64 -1,89 }-1,99 }-0,96 -2,24 -1,95 -1,98 -1,96 -1,97 -1,46 -1,95 -1,66 -0,53 -1,42 -0,65 +0,68 +0,09 +0,32 }-2,25 |

| Dat | e. | No. of ob- servations. | Index by Star | , | Remarks. | No. of ob- servations. | Index E Refle Collin | cting | Difference. |
|--|--|---------------------------|---------------------|------------------------------|-----------------|--|----------------------------|---|---|
| 183 April | 11 12 13 | }10 5 | -2 | 6,04 5,18 | Mean = 2' 6",09 | 4 4 3 5 | _2 | 4,44 4,02 3,83 2,16 | $\begin{cases} -1.81 \\ -1.35 \\ +0.47 \end{cases}$ |
| | 14 15 16 17 18 | 7 5 7 8 | | 1,82 1,76 1,85 2,76 | | 5 4 5 4 5 | 1 1 | 0,72 0,23 1,79 59,36 59,86 | -1,10 $-1,53$ $-0,06$ $-2,85$ |
| W Discrete Contraction and the Contraction of the C | 20 21 22 23 24 | 6 5 | | 2,13 1,51 | , | 3 2 4 5 5 3 | 2 2 | 0,50 2,09 0,33 0,12 0,50 0,37 | |
| enamenteria e vicada e de de desendados de decendados de desendados de d | 25 26 27 28 29 30 | 5 6 5 | | 1,89 1,39 0,58 | , | 4 3 4 5 5 | 1 1 2 | 59,90 59,55 0,17 0,34 0,40 | \ \{-1,76 \ \}-1,53 \ \}-0,21 \ |
| May | 1 2 3 4 | 5 | | 1,50 | Mean = 2' 1",72 | 3 3 4 4 | 1 2 2 1 | 0,21 59,73 0,22 0,44 58,87 | -1,77 |
| | 4 5 6 7 8 9 |) 10 | | 2,27 | | 3 4 5 5 4 | 1 1 2 | 58,91 59,60 0,38 0,42 1,60 | -1,45 |
| | 10 11 12 13 14 15 16 |) | | 2 ,21 | | 5 3 2 4 3 | | 0,12 0,02 0,27 0,96 1,28 0,20 59,97 | }_1,73 |
| | 17 18 | 8 | | 1,06 | | 4 4 5 | 1 2 2 | 59,97 0,25 0,21 | _0,83 |
| | 18 19 20 21 | 7 | | 1,75 | | $\begin{vmatrix} 4 \\ 2 \end{vmatrix}$ | 2 | 0,08 59,68 | 3-1,87 |
| | 22 23 24 25 | 1) | | 1,86 | | 4 4 3 4 | 2 | 0,53 0,13 0,36 0,37 | -1,52 |
| | 26 27 28 29 | 7 | | 0,90 | | 3 2 3 3 | | 1,14 0,15 0,16 0,21 | -0,49 |

| Date. | No. of observations. | Index Error by Stars. | Remarks. | No. of ob- servations. | Index Error by Reflecting Collimator. | Difference. |
|--|--|--|----------|---|--|--|
| 1836 May 30 31 June 1 2 3 4 5 6 | 6 | -2 0,80 0,25 | | 2 3 2 3 3 3 3 2 | -2 1,13 1 58,18 1 58,98 1 57,71 1 59,56 2 0,30 0,16 0,03 | } —1,49 } —0,16 |
| 8 9 10 11 12 13 14 15 | 6 6 6 7 7 8 | 2 0,20 1 59,72 2 0,74 2 0,15 1 59,25 1 58,52 59,24 | | 2 4 3 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 | 1 59,99 2 0,16 1 59,94 2 1,18 1 59,13 58,72 58,63 58,17 56.30 57,64 | $ \begin{array}{r} -0.04 \\ +0.22 \\ +0.44 \\ -1.02 \\ -0.53 \\ +0.11 \end{array} $ |
| 16 17 18 19 20 21 22 23 24 25 26 | 9 7 8 | 59,19 59,20 1 58,94 | | 4 3 4 4 3 3 2 2 3 3 3 | 57,28 57,87 58,65 57,49 57,07 57,44 58,81 58,36 58,07 | \\ \1,73 \\ \0,94 \\ \1,01 |
| 27 28 29 30 July 1 2 3 | 7 | 59,70 | | 3 3 4 4 3 2 2 | 58,12 58,23 57,76 58,18 58,87 59,43 59,89 60,37 | 0,61 |
| 5 6 7 8 9 10 11 12 13 | 8 | 58,82 59,58 | | 1 2 2 2 3 3 3 3 | 59,50 59,30 59,74 59,86 59,04 59,26 60,29 59,90 59,13 | \rightarrow +0,82 \rightarrow +0,12 |
| 14 15 16 17 18 19 | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | 59,25 1 59,33 2 0,01 1 59,64 | | 4 5 3 4 2 | 59,93 60,19 58,64 57,87 58,79 59,51 | $ \begin{cases} +0.17 \\ -1.46 \\ -1.22 \\ -0.13 \end{cases} $ |

| Date. | No. of Ob- servations. | Index Error by Stars. | Remarks. | No. of Observations. | Index Error by Reflecting Collimator. | Difference. |
|---|---------------------------|---|---|--------------------------------------|--|---|
| 1836 July 20 21 22 23 24 26 | 7 | _2 0,30 | | 4 2 2 3 2 2 | -1 60.61 60,64 60,23 58,67 59,82 59,27 | -0, 5 5 |
| 26 27 28 29 30 31 | 7 | 1 58,84 | W. Monsoon. | 4 2 4 1 3 3 | 60,78 59,06 59,64 59,15 59,90 5 9,11 | }+0,51 |
| Aug. 1 | | | cloudy weather peculiar to the S. W | 2 3 2 3 2 1 3 3 | 59,26 60,09 59,39 59,69 59,95 59,72 59,47 | |
| 9 10 11 12 13 14 15 | 8 | 58,36 | d cloudy weather] | 3 2 2 3 3 3 | 60,08 59,45 59,26 59,39 58,70 58,61 56,89 | \ _+0,36 |
| 17 18 19 20 21 22 23 | | 1 58,61 | Continued | 1 3 2 2 2 2 2 4 | 57,33 58,83 58,22 58,35 57,39 56,87 57,19 56,92 | }0,16 |
| 24 25 26 27 | | | A few drops of rain had leaked through the roof and broken the wires:—I put in a | 2 2 3 1 | 57,13 57,75 57,75 | |
| Sep. 8 | 5 7 6 8 5 | -0 45,15 46,23 45,98 44,91 46,16 47,26 | new set. | 3 4 5 4 5 4 4 | -0 46,90 47,38 45,73 44,15 44,61 46,81 45,95 | \begin{cases} +1,99 & -0,50 & -1,83 & -0,30 & +0,65 & -1,31 & \end{cases} |

| Date. | No. of ob- servations. | Index Error by Stars | Remarks. | No. of ob- servations. | Index Error by Reflecting Collimator. | Difference. |
|--|---|---|--|---|---|---|
| 1836 Sep. 15 16 17 | 5 5 | -0 46,11 45,20 | | 3 4 3 | 0 47,49 46,65 45,66 | +1,38 +1,45 |
| 18 19 20 21 22 | 5 } 4 5 | 46,51 45,85 46,12 | | 4 3 3 3 3 3 | 46,79 47,18 44,62 45,13 46,32 | +0,67 $-0,97$ $+0,20$ |
| 23 24 25 26 | 5 } 7 | 46,27 45,53 | | 5 3 3 3 | 46,15 46,53 46,61 46,95 | -0,12 $+1,25$ |
| 27 28 29 30 | } 6 | 47,64 | | 3 4 3 5 | 45,23 46,48 46,84 46,96 | }0,74 |
| Oct. 1 2 3 4 5 | 5 5 5 | 47,07 47,64 46,22 | | 5 4 4 3 3 | 48,00 47,27 46,09 47,15 45,71 | +0,93 0,37 0,13 |
| 6 7 8 9 10 11 12 | 5 6 6 6 5 6 | 46,68 46,49 45,98 45,83 45,72 45,94 45,96 45,41 | | 4 4 5 4 5 4 5 4 5 | 46,90 46,92 46,85 46,63 47,16 47,32 45,74 46,42 | $ \begin{array}{r} +0.22 \\ +0.43 \\ +0.87 \\ +0.80 \\ +1.44 \\ +1.38 \\ -0.22 \\ -0.22 \\ \end{array} $ |
| 14 15 16 17 18 19 20 21 22 23 | 5 5 5 6 6 5 4 5 6 | 46,07 47,27 47,81 47,35 47,25 46,86 47,19 46,30 46,47 | | 5 4 3 4 4 4 2 4 5 | 45,06 46,42 45,93 45,50 45,65 44,88 45,92 46,23 45,32 | +1,01 -1,01 -0,85 -1,88 -1,85 -1 60 -1,98 -1,27 -0,07 -1,15 |
| 24 25 26 | 5 | 46,15 | | 3 3 4 2 | 45,62 45,40 44,44 44,01 | }-1,00 |
| 27 28 29 30 - 31 | 5 | 45,81 | The violence of the wind, prevented observation. | 4 4 2 | 43,72 44,94 43,97 | }-1,48 |
| Nov. 1 2 3 4 | 133 | 44,76 44,36 43,02 | projected observation. | 3 2 2 3 | 42,74 43,83 43,86 44,05 | -2,02 $-0,51$ $+1,03$ |

| Date. | No. of ob- servations. | Index Error by Stars. | Remarks. | No. of ob- servations. | Index Error by Reflecting Collimator. | Difference. |
|--|---------------------------|-----------------------|----------|--|---|-----------------|
| 1836 | | (" | | <u> </u> | 1 11 | |
| Nov. 5 | 5 6 | -0 43,46 44,58 | | $\begin{vmatrix} 3 \\ 4 \end{vmatrix}$ | 0 43,52 | +0,06 $-0,55$ |
| 7 | 6 | 44,70 | | 5 | 44,03 43,99 | -0,55 $-0,71$ |
| . 8 | 6 | 43,25 | | 3 | 42,98 | -0,27 |
| 9 | 5 7 | $44,64 \\ 43,96$ | | $\begin{vmatrix} 4 \\ 5 \end{vmatrix}$ | 42,73 43,89 | -1,91 $-0,07$ |
| 11 | 5 | 43,86 | | 5 | 44,27 | +0,41 |
| 12 13 | 6 | 44,21 | | 4 | 44,56 | +0,35 |
| 14 | | | | | 43,96 43,83 | |
| 15 | | | | 2 2 3 | 42,10 | |
| 16 17 | 5 | 43,67 | | | 43,61 43,57 | -0,10 |
| 18 | | 10,0 | | 2 | 44,03 | ,,,,, |
| 19 23 | 5 | 40,38 | | 2 | 45,28 | 0.00 |
| 24 | } 7 | • | | 4 2 2 3 2 4 | 39,49 39,76 | 0,89 |
| 25 | , ! | 41,85 | | 4 | 41,70 | $\{-1,12\}$ |
| 26 27 | 6 5 | 42,56 43,35 | | 4 4 | 42,40 $42,46$ | -0,16 $-0,89$ |
| 28 | 6 | 42,41 | | 4 | 40,90 | -1,51 |
| 30 | | | | 2 3 5 5 | 41,57 | E C |
| Dec. 1 | 6 | 41,71 | : | 5 | 41,82 $40,72$ | -0,99 |
| 2 3 | 6 | 42,00 | | | 41,53 | -0,47 |
| 4 | 6 4 | 41,68 41,65 | · | 5 | 39,55 39,96 | -2,13 $-1,69$ |
| 5 | 7 | 43,84 | | 5 | 39,92 | -3,92 |
| 6 7 | 6 | 43,47 | | 2 5 3 2 | 40,32 | -3,15 |
| 8 | > 6 | 42,04 | | | 41,27 | 1 49 1 |
| 9 | | 42,04 | | 3 5 | 41,41 | _ -0,65 |
| 10 | 7 | 42,35 | | 5 5 | 41,96 42,38 | +0,03 |
| 11 12 | 6 | 42,88 | | 4 | 42,38 | -0,50 |
| 13 14 | | | | 3 | 42,77 | |
| 15 | 9 | 40.55 | | 3 3 3 2 | 42,07 41,46 | |
| 15 16 | 6 9 | 42,55 | | 2 | 42,66 | ├ —0,20 |
| 17 18 | 6 | 43,56 | | 5 2 | 43,20 42,33 | —1,23 |
| 19 | } 9 | 43,21 | | 2 | 42,93 | i |
| 20 21 | 1 | | | 4 | 43,05 | }0,22 |
| 22 | } 6 | 42,95 | | 3 | 42,82 42,71 | }0,18 |
| 23 24 | 4 5 | 42,24 | | 4 | 42,50 | +0,26 |
| 24 25 | 1 3 | 42,55 | | 4 2 | 42,72 43,21 | +0,17 |
| | | | | ĺ | 10,21 | |
| | a construction | | | | | |
| The second secon | | | | | | |

44 INDEX ERROR OF THE MURAL CIRCLE FOR 1836 AND 1837.

| Date. | No. of ob- servations. | Index Error by Stars. | Remarks. | No. of ob- servations. | Index Error by Reflecting Collimator. | Difference. |
|--|---------------------------|---|----------|--|--|--|
| 1836 Dec. 26 27 28 29 30 31 | e § | 0 42,87 | | 5 2 3 3 2 5 | -0 42,72 42,37 41,91 42,94 42,80 41,93 | -0,43 |
| 1837 Jan. 1 2 3 4 5 6 7 8 9 10 11 12 | 6 7 | 42,80 44,01 44,22 44,00 44,28 43,89 44,44 43,26 42,80 43,46 | | 1 5 4 5 5 4 5 5 5 3 5 4 2 2 | 42,15 42,20 42,55 42,25 42,28 43,27 43,81 43,47 42,97 42,49 42,77 41,75 42,95 41,88 | |
| 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 | 6565466767756 | 43,36 44,07 43,57 43,62 43,51 43,93 44,07 44,02 43,79 42,75 43,81 43,93 43,58 44,39 43,96 | | 4 2 2 2 3 3 4 4 5 2 3 3 3 4 4 3 3 4 4 3 3 | 41,65 40,57 40,37 41,37 40,37 41,06 41,49 41,14 41,07 42,72 42,26 42,59 43,22 42,96 43,02 43,14 | $\begin{array}{c} \mathbf{)} \\ -3,70 \\ -2,20 \\ -3,25 \\ -2,45 \\ -2,44 \\ -2,93 \\ -2,95 \\ -1,07 \\ -0,49 \\ -1,22 \\ -0,71 \\ -0,62 \\ -1,37 \end{array}$ |
| 30 31 Feb. 1 2 3 4 5 6 7 8 9 10 11 12 13 | 6 7 8 11 5 8 7 6 6 6 6 6 | 43,96 43,75 43,63 43,65 43,41 43,63 43,82 44,06 44,36 43,65 44,22 43,18 43,33 | | 2 2 4 3 2 3 4 3 3 4 5 5 | 42,91 44,39 43,61 44,27 42,30 42,66 43,41 41,71 41,72 42,25 41,78 42,09 41,92 42,81 | $ \begin{vmatrix} +0,64 \\ +0,64 \\ -1,35 \\ -0,75 \\ -0,22 \\ -2,11 \\ -2,34 \\ -2,11 \\ -1,87 \\ -2,13 \end{vmatrix} $ |

| Date. | No. of observations. | Index Error by Stars. | REMARKS. | No. of ob- servations. | Index Error by Reflecting Collimator. | Difference. |
|---|--|---|--|--------------------------------------|---|---|
| 1837 Feb. 14 15 16 17 18 19 20 21 22 23 24 25 | | | Mean—43*,83 I took out the axis;—cleaned it—applied fresh oil, and adjusted the microscopes. | 5 4 3 4 4 3 2 3 | -0 43,07 42,77 43,00 42,58 42,11 42,76 42,58 42,80 | -0,25 -0,60 }-1,62 -1,95 -1,37 }-1,18 |
| 26 27 28 Mar, 1 2 | 5 6 5 | 41,17 41,23 41,19 | * | 3 3 4 4 | 41,82 41,18 40,38 40,81 43,00 | +0,65 -0.05 -0,81 |
| 3 4 5 6 7 8 9 | 8 8 6 6 6 6 | 40,42 40,02 39,61 39,94 39,24 | Mean-41″,18 | 455444555 | 43,44 39,78 40,06 39,58 41,93 40,54 40,25 40,66 | $ \begin{array}{c c} -1,23 \\ -0,84 \\ +1,91 \\ +0,93 \\ +0,31 \\ +1,42 \\ +1,54 \end{array} $ |
| 11 12 13 14 18 | 2 5 3 9 4 9 5 9 | 39,08 39,64 39,70 39,52 40,07 40,08 | | 5 3 4 4 4 5 | 40,44 40,06 40,33 40,15 39,45 | $\begin{array}{c} +0.80 \\ +0.80 \\ +0.50 \\ +0.63 \\ -0.62 \\ -0.83 \end{array}$ |
| 1 2 2 2 2 2 | 8 8 8 8 8 8 8 1 5 8 | 40,60 40,39 40,59 40,50 39,86 39,58 40,12 | | 55 33 44 23 | 39,78 39,68 39,29 39,19 39,30 39,58 39,27 | $ \begin{array}{c c} -0.82 \\ -0.71 \\ -1.30 \\ -1.31 \\ -0.56 \\ 0.00 \\ \end{array} $ $ \begin{array}{c c} -0.65 \\ \end{array} $ |
| 2 2 2 | 5 | 40,48 | | 4 | | -0,59 |
| 23 | 28 6 29 6 30 7 | 40,82 | Mean-40",44 | | 40,44 2 40.75 2 40,08 | $\left.\begin{array}{c} -0.48 \\ +0.26 \end{array}\right.$ |
| April | $\begin{bmatrix} 1 \\ 2 \\ 3 \end{bmatrix} $ | 39,03 | Media 10 , | | 4 38,64 4 38,97 4 38,70 4 38,78 | $\left.\begin{array}{c} -0,26 \\ \end{array}\right.$ |
| | 5 7 | 40,38 | | | 38,56 | |

| | - |
|-----|-----|
| - 4 | 4 |
| 71 | B . |
| | |

| Date. | No. of observations. | Index Error by Stars. | REMARKS. | No. of observations. | Index Error by Reflecting Collimator. | Difference. |
|-------|------------------------------------|----------------------------------|---------------|--|--|-------------|
| | 6 5 8 9 6 6 6 6 5 8 9 6 8 10 7 8 6 | -0 38,75 37,58 37,75 37,84 37,58 | Mean — 37*,36 | 4422454432244443355555543 324355442343 334434444444444 | 36,82 36,56 37,26 37,47 37,76 37,45 37,55 37,67 37,13 38,10 37,65 37,49 36,87 4 36,87 4 37,81 38,23 4 37,78 4 38,12 | -0,90 |

| Da | | No. of observations. | Index Error by Stars. | Remarks. | No. of observations. | Index Error by Reflecting Collimator. | Difference. |
|------|-----------------|----------------------|---------------------------------------|---------------|--------------------------------------|---|-----------------|
| May | 37 25 | | / 1/ | 4 | 2 | _0 38,14 | |
| May | 26 | | e e e e e e e e e e e e e e e e e e e | | 2 | 37,82 | |
| | 27 28 | 8 \$ | — 0 37,70 | | 2 2 | 37,65 37,95 | }+0,17 |
| | 29 | • | | | 2 | 38,02 | (),1. |
| | 30 | | | Mean — 37",63 | 3 | 38,73 | |
| | 31 | } 7 | 36,69 | | 3 | 38,34 | }+1,84 |
| June | 1 2 | | · | | 2 2 | 38,28 38,26 | |
| | 3 | | · | | 2 | 37,07 | |
| | 4 5 | 6 | 36,66 | • | 2 2 | 37,72 37,49 | +0,83 |
| | 6 | 6 | 36,85 | | 3 | 37,10 | +0,25 |
| | 7 | 5 5 | 36,07 35,7 <i>5</i> | | 3 | 37,46 37,46 | +1,39 +1,71 |
| | 9 | 5 | 35,90 | | 3 2 | 37,69 | +1,79 |
| | 10 11 | <i>5</i> 8 | 37,37 36,53 | | 3 | 37,37 37,66 | $0,00 \\ +1,13$ |
| | 12 | 4 | 36,92 | | 3 2 | 37,67 | +0,75 |
| | 13 14 | 5 | 36,16 | | 2 | 38,01 37,36 | +1,20 |
| | 15 | } 8 | 36,58 | Mean — 36",49 | 3 | 37,02 | }+0,36 |
| | 16 17 | } | 30,38 | | 2 2 | 36,86 37,10 | 3+0,50 |
| | 18 | | | | 2 | 37,43 | |
| | 19 20 | | | | 2 2 | 37,36 36,12 | |
| | 21 | } 6 | 35,96 | | 3 | 35,65 | { +0,03 |
| | $\frac{22}{23}$ |) | 36,31 | | 3 3 | 36,33 36,24 | _0,07 |
| | 24 | 6 | 34,95 | | 3 | 36,01 | +1,06 |
| | 25 26 | 7 | 36,68 36,95 | | 3 3 | 36,44 35,30 | -0,24 $-1,65$ |
| | 27 | | | | 3 | 35,82 | |
| | 28 29 30 | 7 | 36,60 | | $\begin{vmatrix} 2\\2 \end{vmatrix}$ | 36,62 36,71 | |
| | 30 | | | | 2 | 36,78 |) |
| July | 1 2 | | | | 3 2 | 36,82 36,65 | |
| | 2 3 | | 35,74 | | 4 2 | 37,03 | +1,29 |
| | 4 5 | | | 1 | 2 | 37,20 37,13 | |
| | 6 | i | | | 3 2 | 35,88 35,61 | |
| | 8 | 7 | 35,33 | | 3 | 35,38 | +0,05 |
| | 9 | 7 | 36,14 | 15 000 10 | 3 | 35,30 | -0,84 |
| | 10 |) | | Mean — 36",12 | 4 5 | 35,47 | |
| 10 | 11 | . | 35,52 | | 5 | 36,41 | +0,89 |

| Date. | No. of ob- servations, | Index Error by Stars. | Remarks. | No. of ob- servations. | Index Error by Reflecting Collimator. | Difference. |
|-----------------|---------------------------|-----------------------------------|----------|---|---|------------------------|
| 1837 July 12 | | , " | | 4 | _0 35,78 | |
| 13 | 5 | — 0 3 <i>5</i> ,9 <i>5</i> | | 4 | 35,45 | 0,50 |
| 14 15 | } 10 | 36,18 | | 3 4 | 35,57 36,49 | }0,15 |
| 16 | 5 | 36,12 | | 3 | 36,08 | 0,04 |
| 17 18 | | | | $\begin{vmatrix} 3 \\ 2 \end{vmatrix}$ | 36,15 35,76 | |
| 19 | | | • | 3 | 36,34 | |
| 20 21 | | | | $\begin{vmatrix} 3 \\ 2 \end{vmatrix}$ | 36,35 36,12 | |
| 22 | | 36,13 | | 1 2 | 36,55 | +0,42 |
| 23 | | | | 3 2 | 36,38 | |
| 24 25 | | | | 3 | 36,32 35,99 | |
| 26 | | | | 3 | 35.78 | |
| 27 28 | | | | 3 2 | 36,19 36,41 | İ |
| 29 | | | | 2 | 35,80 | |
| 30 31 | | | | $\begin{array}{c c} 2 \\ 2 \end{array}$ | 36,10 36,63 | |
| Aug. 1 | ٦ | | | 2 | 35,66 | <u> </u> |
| 2 | | | | 2 2 | 36,33 36,62 | |
| 4 | > | 37,11 | | 2 | 35,66 | } —1,06 |
| 5 | | | | 2 2 | 35,95 | |
| 6 | 6 | 26 56 | | 3 | 36,10 36,22 | B |
| 8 | , | 36,56 | | 4 | 36 09 | $\left.\right\}$ -0,41 |
| 9 | 6 | 37,42 | | 4 | 35,59 35,60 | _1,83 |
| 11 | } 9 | 36,58 | | 3 | 35,35 | $\{-1,11\}$ |
| 12 13 | 5 | 37,32 | | 4 2 | 35,20 35,00 | -2,12 |
| 14 | | | | 2 | 35.41 | |
| 15 16 | | | | $\begin{vmatrix} 2\\2 \end{vmatrix}$ | 37,42 37,31 | |
| 17 | 5 | 38,09 | | 2 | 36,65 | -1,74 |
| 18 19 | | | | $\begin{vmatrix} 2\\2 \end{vmatrix}$ | 36,60 | |
| 20 |) | | | $\frac{2}{2}$ | 36,51 35,93 | |
| 21 22 | } 6 | 38,50 | | 2 | 36,20 | 2,03 |
| 23 |) | | | 3 2 | 36,75 36,27 | , ,,,, |
| 24 |) | | | 2 | 35,70 |) |
| 25 26 | 8 | 36,52 | | $\begin{array}{c c} 2 \\ 2 \end{array}$ | 36,06 36,30 | >-0,10 |
| 27 |) | | | 3 | 37,61 |) |
| 28 29 | 6 | 37,71 38.04 | | 3 | 37,10 | -0,61 |
| 29 | | 38,04 | | 4 | 36,46 | -1,58 |

| Date. | No of ob- servations. | Index Error by Stars. | Remarks. | No. of ob- servations. | Index Error by Reflecting Collimator. | Difference. |
|---|--------------------------|---|---------------------------|---|--|---|
| 1837 Aug. 30 31 Sep. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 Oct. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 19 | 6 12 665766666985697 | 37,18 38,03 37,96 37,81 38,00 39,34 38,73 37,55 38,29 39,29 38,97 38,36 38,45 38,17 37,74 37,76 39,05 38,34 38,42 38,32 | Continued cloudy weather. | 3 2 2 2 2 2 2 2 2 2 2 2 3 4 4 4 3 3 3 3 | 7 36.13 36,66 36,71 35,13 35,52 36,21 36,02 36,07 37,10 37,80 37,49 36,74 36,92 36,69 37,09 36,88 37,15 37,16 36,97 37,47 38,73 39,72 37,65 37,65 37,65 37,60 37,69 37,69 37,69 37,69 37,69 37,69 37,69 37,60 37,69 37,60 37,69 37,69 37,60 37,69 37,69 37,60 38,00 38,00 38,00 38,60 | -2,37 +0,10 -1,11 -1,27 -0,72 -1,12 -2,19 -1,57 -0,58 -0,82 -0,56 +0,75 -0,71 -0,60 }-0,19 }+0,28 -0,94 -0,94 +0,24 |

| Date. | No. of ob- servations. | Index Error by Stars. | Remarks. | No. of ob- | | Index Error by Reflecting Collimator. | Difference. |
|--|---|---|--|------------|--|--|---|
| 1837 Oct. 20 21 22 23 24 25 26 27 28 29 30 | } 7 6 | 0 37,91 37,82 | | | 2 3 2 4 3 4 2 2 2 1 2 1 2 | -0 37,38 38,41 38,17 37,98 37,78 37,10 37,49 38,39 37,99 37,00 37,49 37,23 37,23 | }0,03 0,72 |
| Nov. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | 5 5 | 35,33 34,46 34,55 | y weather peculiar to the N. E. Monsoon. | | 2 2 2 2 2 1 1 2 2 4 2 4 3 3 3 3 | 37,38 36,71 35,75 35,23 34,57 34,63 34,76 34,32 34,97 34,37 34,29 34,22 33,24 34,17 | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ |
| 16 17 18 19 20 21 22 23 24 26 25 26 27 28 | 10 8 8 | 34,21 34,55 35,15 34,91 35,77 | Continued cloudy wes | | 4 2 3 3 3 3 4 4 3 4 3 3 3 3 3 3 | 34,41 33,46 34,38 34,27 34,86 34,53 34,77 35,17 34,46 34,47 35,03 34,53 34,53 | $ \left. \begin{array}{c} -0,06 \\ -0,06 \\ +0,12 \\ -0,96 \end{array} \right\} $ |
| Dec. | 5 1 2 3 4 5 5 6 7 8 9 | | | | 4 3 3 3 2 3 2 3 | 34,98 35,12 34,78 35,17 35,26 34,76 34,4 34,2 34,2 | 3) 5 6 6 6 6 6 6 6 6 6 |

| Date. | No. of Observations. | Index Error by Stars. | Remarks. | No of Ob- servations. | Index Error by Reflecting Collimator. | Difference. |
|--|--|---|----------|---------------------------------------|--|---|
| 1837 Dec. 10 | | | | 2 3 3 | -0 32,76 33,02 33,67 | |
| 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 | 5 9 7 9 7 5 6 11 7 | -0 34,98 35,27 35,13 34,55 34,37 33,54 34,97 34,77 35,42 36,17 | | 3 3 3 2 4 4 3 4 2 2 4 1 3 3 3 3 4 3 2 | 32,53 33,89 32,95 33,17 33,02 32,91 32,91 33,03 33,72 32,80 33,74 33,55 33,09 33,71 33,61 33,56 34,34 36,64 | $ \begin{array}{c} -1,09 \\ -2,21 \\ -2,17 \\ -1,58 \\ -0,96 \\ -0,45 \\ -1,26 \\ -1,19 \\ -1,08 \\ +0,75 \end{array} $ |

Taking the means of the column "difference", and putting d L for the error of the Assumed Latitude, and E for the error of the four divisions employed, we get

The discordance here found between the result for 1835 as compared with that for 1836 and 1837, is, as far as our present knowledge extends, chargeable alone to error of observation: it adds one to a great many other cases of daily occurrence, which shew, that notwithstanding the facility with which an accuracy of one or two seconds may be attained, (even by a single observation) still, how little control continued observation gives us over the fraction of a second.

RESULT OF OBSERVATIONS MADE WITH THE TRANSIT INSTRUMENT AND MURAL CIRCLE.



It has hitherto been a constant source of regret to me,—that whilst the observations of the fixed Stars and Planets, have come out—in a manner creditable to the Madras Instruments and Observers-still, that the observations of the Sun have been discordant to a degree little calculated to confer credit upon either—It is not that the mean results have differed much at any time, from those determined at other observatories; but the discordance found among individual results reaches to an amount (occasionally 5 or 6 seconds + or —) which could hardly be credited: during the past two years this subject has occupied no small share of my attention, and the result has been I am sorry to say but little satisfactory. During the Autumn of 1835 and in 1836 and 1837, it had generally been my custom, to compute the Sun's N. P. D.—set the instrument, and read off the 4 Microscopes previously to opening the shutters for the meridian observation; the comparison of these readings with those made at the time of meridian passage, shews that no change is ever effected upon the relative position of the microscopes by the Sun shining upon the Instrument: to discover if the Index Error remained constant under these circumstances,-I made two or three observations with the Reflecting Collimator at a few minutes before Noon; and then, opening the shutter,—allowed the Sun to shine upon the Instrument for 5 minutes before the meridian passage, immediately after which, the Observation with the Reflecting Collimator was repeated; the result shewed, that no appreciable change had occurred from the action of the Sun's rays upon the Instrument for this time: - under these circumstances I am reluctantly compelled to proceed, and leave this matter still unexplained-In the table which follows, the meridian observations of the Sun at the Transit have it will be observed, on many occasions been omitted, which has arisen in consequence of no known star having been observed during the day timewhen the uncertainty of the clock's rate would not permit its error to be interpolated from the evening observations.

The observed transit of the 1st and 2d limb over the five wires, furnishes us with the value of the apparent semidiameter; from which, the mean horizontal semidiameter = $\left(\frac{\text{Sun's 2 L.}-1 L.}{2}\right) \times 15 \left(1+\frac{a'-a}{48}\right) \sin N. P. D. \times \text{dist. (Earth - Sun)}$

At the Circle it has been usual to observe either the North limb alternately with the South limb at consecutive transits, or to observe on the same day—the N. P. D. of the one limb at 30 seconds before the meridian passage, and that of the other at 30 seconds after it—whereby the mean vertical semidiameter of the Sun has been computed from the formulæ—

M. V. Semid. $=\frac{N. P. D. Sun's South L. - N. P. D. Sun's North L. + dr. \pm d. D. - C - T.}{2} \times dist.$ (Sun-Earth.) where α' , α , represent the A. R. of the Sun at the noon following, and preceding the day of observation; dr, the difference of the refractions due to the N. and S. limbs; d D, the change of Declination in 1^m of time (the interval between the observations), C a correction due to a small inclination of the horizontal wire; which, up to the 19th June 1836 amounted to 1^m , 46 but has since been reduced to 0; and $T = 2^m$, 42 is the value of the diameter of the wire.

Comparison of the Observed A. R. and N. P. D. of the Sun, with the places interpolated from the Nautical Almauac, &c.

| | | Rig | gh t | Ascen | ision | Error of | Nor | b F | olar D | istance | Error of | Mea | n Semi | diameter. |
|------|----|-----|--------------|-------------|---------------|----------|------|--------------|-------------|---------------|----------|-----|-----------|-----------|
| 183 | 6 | | froi serv | n vation | from N. A. | Tables. | | fron serv | n ation. | from N. A. | Tables. | Hor | izontal. | Vertical. |
| | | h. | n. | s. | s. | " | 0 | ′ | " | " | " | 1 | " | 1 |
| Jan. | 2 | | 47 | 45,02 | 44,60 | -0,42 | 113 | . 0 | 25,15 | 28,60 | +3,45 | | | |
| | 3 | | 52 | 9,79 | 9,30 | -0,49 | | 55 | 8,28 | 12,50 | +4,22 | 16 | | |
| | 4 | | 56 | 34,21 | 33,70 | 0,51 | | | 28,38 | 29,00 | +0.02 | | 0,27 | į |
| | 6 | 19 | | 21,47 | 21,10 | | 112 | | 37,82 | 40,90 | | | 1,96 | † |
| | 7 | 1 | 9 | 44,65 | 44,20 | 0,45 | 112 | | | 36,70 | | | 1,87 | A Company |
| | 8 | | 14 | 7,04 | 6,90 | -0,14 | 112 | 22 | 5,58 | 5,70 | + 0,12 | | 3,72 | |
| | 9 | | 18 | 28,92 | 29,00 | | 112 | 14 | 5,82 | 8,40 | +2,58 | | 3,68 | |
| | 10 | | 22 | 50,95 | 50,60 | | 112 | | 43,26 | 44,80 | | | 2,68 | |
| | 11 | | 27 | 12,31 | 11,80 | | 111 | 56 | | 55,40 | | 15 | 59,90 | |
| | 13 | | | 52,80 | 52,30 | | 111 | 37 | 58,00 | 59,70 | | | 59,80 | 1 |
| | 14 | | 4 0 | 11,93 | 11,80 | | 111 | | | 53,90 | | | 55,96 | |
| | 15 | | 44 | | 30,40 | | | | 21,46 | 23,20 | | 16 | | |
| | 16 | | 48 | | 48,60 | | 111 | | 28,03 | 27,90 | | ١., | 2,32 | |
| | 17 | | 53 | | 5,90 | | 110 | | | | | 15 | 59,66 | |
| | 18 | | 57 | | | | | | 25,71 | 24,80 | | 100 | 58,27 | 1 |
| | 19 | 20 | 1 | , | | | 1110 | 31 | 16,97 | 17,80 | + 083 | 16 | 1,18 | 1 |
| | 20 | | 5 | | | | 1 | | ~~ ~1 | 1 | 101 | | 7.0 | 1 |
| | 21 | | 10 | | | | | | 55,61 | | | | 1,67 | 1 |
| l | 22 | | 14 | 22,30 | 22,10 | -0,20 | 1109 | 52 | 37,44 | 38,40 | + 0,96 | 1 | 0,47 | <u> </u> |

| 100 | | R | ight | Ascen | sion | Error of | Nor | th I | Polar D | istance | Error of | Mean | Semi | diameter. |
|------|---|----------|---|-----------------------|-----------------|--|------------|-------------|---|----------------|--|------------|----------------------|-----------|
| 183 | 00 : | | fron erva | n tion. | from N. A. | Tables. | ob | fro serv | m ation. | from N. A. | Tables | Horiz | ontal. | Vertical. |
| Jan. | 23 | h. 2 | | s. 35,36 | s. 35,00 | | 0 109 | , 39 | 1,40 | 0,50 | 0,90 | | 8,70 | 1 |
| | 24 25 | | 26 | 47,23 58,56 | 47,10 58,40 | -0.13 -0.16 | 109 | 10 | 34,83 | 39,30 | + 4,47 | | 2,14 1,10 | |
| | 26 27 | | | 9,09 19,22 | 8,90 18,60 | -0.19 -0.62 | | | 54,70 | 53,90 | | | 0,80 1,96 | |
| | 28 29 | | 43 | 27,64 35,76 | 27,50 35,40 | -0.14 -0.36 | 108 | 9 | 26,81 44,31 | 30,60 47,60 | +3,79 +3,29 | | 1,8 2 0,90 | |
| | 30 31 | | 47 51 | 43,14 49,04 | 42,60 48,90 | -0.54 -0.14 | 107 | 53 | 42,30 | 45,00 | +2,70 | 15 5 16 | 9,93 2,3 0 | |
| Feb. | 1 2 | | 59 | 54,70 59,35 | 54,30 58,90 | -0,40 -0,45 | 107 | | 46,33 | 44,80 | -1,53 | | 2,48 2,16 | |
| | 3 4 | 21 | 4 8 | 3,31 6,38 | 2,70 5,80 | -0,61 -0,58 | | 28 | 26,44 54,05 | 28,30 54,40 | +0,35 | | 1,50 0,30 | |
| | 5 6 | | 12 16 | 8,81 10,27 | 8,00 9,40 | -0,81 -0,87 | | 52 | 55,22 | 3,50 55,80 | | | 1,66 | |
| | 7 8 | ļ., | $\begin{array}{c} 20 \\ 24 \end{array}$ | 10,04 $10,32$ | 9,90 9,70 | $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 105 | 15 | 33,47 54,66 | 31,70 51,70 | $\begin{vmatrix} -1,77 \\ -2,96 \end{vmatrix}$ | | 4,30 1,20 | |
| | 9 10 | | 28 32 | 9,47 $7,77$ | 8,70 7,00 | -0,77 -0,77 | 104 | 56 | 58,82 | 56,20 | -2,62 | | 0,68 0,47 | |
| | $\begin{array}{c} 11 \\ 12 \end{array}$ | | 36 40 | 4,72 $1,54$ | 4,50 1,20 | -0,22 -0,34 | 103 | 58 | 15,55 37,19 | 20,00 | | | 58,98 | |
| | 13 14 | | 43° 47 | 57,52 52,40 | | $\begin{bmatrix} -0.32 \\ -0.10 \end{bmatrix}$ | 103 | 18 | 41,35 37,35 | 46,70 39,60 | | 16 | 59,86 2,28 | |
| | 15 16 | | 51 55 | | 40,50 | -0,70 | 102 102 | 37 | 14,93 42,53 | 19,40 46,70 | | Ì. | 1,15 0,06 | |
| | 17 18 | | 59 3 | | | -0,54 | 102 | 56 | | 1,80 5,20 | +4,42 | 15 4 16 | 59,75 2,17 | |
| | 19 20 | | 7 11 | 17,63 8,67 | 17,30 8,10 | | 101 | 13 | 55,24 37,89 | | +0,31 | | 1,10 0,75 | |
| | $\begin{array}{c} 21 \\ 22 \end{array}$ | | | 58,47 48,41 | 58,40 47,80 | -0,61 | 100 | 52 | 5,56 | 9,00 | + 3,44 | | 3,18 1,06 | |
| | 23 24 | | 22 26 | 36,87 25,28 | 24,80 | -0,48 | | | 39,58 | 42,60 | | | 2,90 | |
| | $\begin{array}{c} 25 \\ 26 \end{array}$ | | | 12,42 59,81 | | | 99 | 9 2 | 1 34,42 2 16,49 | 20,80 | | ľ | 0,24 1,48 | |
| | $\frac{27}{28}$ | • | 37 41 | | | | 98 | 3 17 | 58,42 25,31 | 27,40 | | | 1,38 1,52 | |
| Mai | 29 r. 1 | | 45 49 | | | | 9' | 32 | 48,64 3,40 | | | | 1,42 2,30 | |
| | 2 | 3 | 52 56 | | 45,90 $29,60$ | -0,09 | 96 | 3 46 |) 12,18 6 16,18 | 17,50 | +2,22 | | 1,16 | |
| | | 5 | | 13,02 55,67 | | | 90 | 3 (| | 7,40 | | | 1,32 2,48 | |
| | | 3 7 | 7 11 | 20,16 | 19,70 | + 0,30 - 0,46 | 9. | 5 13 | 5 55,59 3 40,00 | 37,70 | -2,30 | | 3,38 1,12 | |
| | 9 | 3 9 | 1 <i>5</i> | $\frac{1,91}{342,63}$ | 42,50 | -0,13 | 9. | 4 26 | 15,41 5 52,79 | 51,00 | 1,79 | | 2,78 0,62 | |
| | 1 | 1 | | 23,56 | 3 23.40 4,00 |) + 0.14 | 9 | 4 ; 3 39 | 3 21,03 9 49,34 | 22,30 50,40 | +1,27 | | 0,67 | |
| | | 2 3 | | 9 44,36 3 24,33 | 44,20 | $0 \mid -0.16 \\ 0 \mid -0.23$ | | | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | | +3,48 | k | 2,72 2,45 | |

| 1000 | | Right Ascer | nsion | Error of | North Polar D | istance | Error of | Mean Sem | idian | neter. |
|-------|------------|------------------------|----------------|--|----------------------------|----------------|----------------|--------------------|----------|----------------------|
| 1836 | | from observation. | from N. A. | Tables. | from observation. | from N. A. | Tables. | Horizontal. | Vei | rtical. |
| Mar. | 14 | h. m. s. 23 37 4,56 | s. 3,90 | | 92 28 57,96 | 0,20 | +2,24 | 16 1,70 | 15 | 58,02 |
| | 15 | 40 43,49 | 43,30 | -0,19 | | | | 1,68 | 16 | 2,16 |
| | 16 | 44 22,73 | 22,50 | -0,23 | 91 41 35,63 | 38,10 | | 0,70 | | 1,80 |
| | 17 | 48 1,66 | 1,50 | -0.16 | 91 17 53,09 | 55,70 | | 4,14 | | 1,82 |
| | 18 19 | 51 40,74 55 19,27 | 40,30 | -0,44 | 90 54 12,09 90 30 31,33 | 12,80 | | 2,14 | | 0.64 |
| | 20 | 55 19,27 58 57,11 | 18,90 57,50 | $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 90 6 46,88 | 29,90 47,40 | | 2,56 | 1. | 0,34 2, 94 |
| | 21 | 0 2 35,87 | | -0.07 | 00 0 40,00 | 47,40 | 1 0,02 | 1,42 | j. | ~ ,∪. |
| | 22 | 6 14,33 | 14,10 | -0,23 | 89 19 26,96 | 25,10 | 1,86 | 0,86 | 1 | |
| | 23 | 9 52,53 | 52,20 | -0,33 | 88 55 45,58 | 46,10 | | 1,80 | | |
| | 24 | 13 30,13 | 30,20 | | 88 32 7,26 | 8,90 | | 1,92 | | |
| | 25 | 17 8,63 | 8,20 | -0,43 | 88 8 31,58 | 33,90 | | 1,86 | | 1,9 |
| | 26 | 20 46,28 | 46,10 | -0.18 | 87 44 59,28 | 1,60 | | 2,34 | | 5,6 |
| | 28 | 28 2,61 | 2,00 | -0.61 | 87 58 5,42 | 6,20 | | 2,28 | | 1,8 |
| | 29 | 31 40,04 35 18,07 | 39,90 | -0.14 | 86 34 41,78 86 11 24,35 | 43,80 | | 3,65 | | |
| | 30 31 | 38 56,02 | 17,90 55,90 | $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 85 48 14,09 | 25,50 $11,40$ | | 2,05 2,17 | İ | |
| April | 1 | 42 34,32 | 34,10 | -0.12 -0.22 | 85 25 2,72 | 2,30 | | 1,32 | | |
| xpiii | 2 | 46 12,53 | 12,30 | | 85 I 56,19 | 57,90 | | 1,06 | | |
| | 3 | 49 50,90 | 50,70 | 0,20 | 84 39 1,80 | 58,90 | 1 | 1,37 | | |
| | 4 | | , , , , | , , , | 84 16 5,44 | 5,40 | 0,04 | 3,42 | | |
| | 5 | 57 7,57 | 7,90 | + 0,33 | 83 53 13,11 | 17,70 | 4,59 | 0,82 | | |
| | 6 | 1 0 47,01 | 46,70 | -0.31 | 83 30 30,82 | 36,10 | +5,28 | 3,54 | | |
| | 7 | 4 25,77 | 25,90 | +0,13 | 83 7 57,50 | 1,00 | | 15 59,34 | | |
| | 8 | 8 5,59 | 5,20 | 0,39 | 82 45 27,54 | 28,90 | | j | | |
| | 9 | 11 45,03 | 44,90 | -0.13 | 82 23 8,94 | 12,00 | | 16 192 | | |
| | 10 | 15 24,87 | 24,70 | -0.17 | 82 0 55,77 | 58,70 | | | | |
| | 11 12 | 19 5,31 22 45,55 | 4,90 | -0.41 | 81 38 51,77 81 16 55,56 | 53,50 56,40 | | 1,44 2,14 | | 2,5 |
| | 13 | 26 26,35 | 45,40 26,10 | $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 80 55 9,64 | 7,90 | +0.84 -1.74 | 0,90 | | ں, ب |
| | 14 | 30 7,41 | 7,20 | -0.25 -0.21 | 00 00 0,04 | 1, | 1 1,/ 1 | 3,52 | | |
| | 15 | | 48,70 | 0,30 | 80 12 2,37 | 57,80 | 4,57 | 3,82 | ļ | |
| | 16 | 36 30,48 | 30,60 | +0,12 | 79 50 41,31 | 37,20 | | 1,24 | | |
| | 17 | 41 13,38 | 12,80 | -0,58 | 79 29 27,63 | 26,50 | 1,13 | 2,88 | | |
| | 18 | 44 55 ,39 | 55,29 | 0,10 | 79 8 24,31 | 26,20 | +1,89 | 3,14 | | |
| | 19 | 48 38,52 | 38,30 | | 78 47 32,44 | 36,50 | +4,06 | 1,62 | | |
| | 20 | 52 22,09 | 21,70 | -0,39 | # 0 0000 | 0.10 | 200 | 16 1,20 | i | |
| | 21 | 56 5,86 | 5,50 | -0.36 | 78 6 28,12 | 31,10 | +2,98 | 0,64 | | |
| | 22 | 59 49,95 | 49,70 | -0,25 | 77 46 14,53 | 15,80 | | 2,94 | | |
| | 23 | 2 3 34,84 | 34,40 | 0,44 | 77 26 11,17 | 12,50 19,90 | | 0,18 15 58,60 | | |
| | 24 25 | 7 19,45 11 5,65 | 19,50 | +0.05 -0.65 | 76 46 41,94 | 44,10 | -0,20 + 2,16 | 16 3,72 | | |
| | 26 | 14 51,63 | | -0.03 | 76 27 18,05 | 19,30 | +2,10 +1,25 | 1,46 | | 0,3 |
| | 27 | 18 38,01 | 37,40 | | 76 8 6,94 | 8,10 | | 0,84 | | -,0 |
| | 28 | 22 25,29 | 24,50 | | 75 49 11,80 | 10,50 | 1,30 | 1,64 | | 3,9 |
| | 29 | 26 12,51 | 11,70 | | 75 30 26,44 | 26,90 | +0,46 | 1,52 | | |
| | 30 | 30 0,48 | | | 75 12 0,12 | 57,80 | -2,32 | | | |
| May | 1 | 33 48,65 | | -0,05 | 74 53 44,38 | 43,10 | 1,28 | 2,10 | . 1 | |
| | 2 | 37 38,19 | 37,70 | -0,49 | 74 35 41,11 | 43,30 | +2,19 | 1,40 | İ | |
| | 3 | | | | 74 17 57,39 | 58,60 | | | | |
| | 5 | 49 8,16 | □ 8,30 | 1 + 0.14 | 73 43 9,71 | 16,10 | 1 + 6,39 | | . 1 - 2. | |

| | | Right | Ascen | sion | Error of | North Polar Di | stance | Error of | Mean Semi | diameter. |
|------|---------------|------------------|-----------------------------|---------------------|---|----------------------------|--|---|-----------------|--------------|
| 1836 | , | from observat | | from N. A. | Tables. | from observation. | from N. A. | Tables. | Horizontal. | Vertical. |
| May | 6 | h. m. 2 52 5 | | s. 59,60 | + 0,45 | 73 26 14,79 | 18,80 | +4,01 | 20.004 | 15 59,28 |
| | 7 8 | | 51,77 44,32 | 51.70 44,20 | $\begin{array}{c c} -0.07 \\ -0.12 \end{array}$ | 73 9 33,19 72 53 11,53 | 37,80 13,40 | +4.61 + 1.87 | 16 2,64 2,88 | 57,26 |
| | 9 | | Ì | | | 72 37 1,25 | 6,10 | +4,85 | 3,28 | 59,75 |
| | 10 11 | | 31,65 25,48 | 31,20 25,40 | -0,45 $-0,08$ | 72 21 13,83 72 5 41,78 | 16,00 43,60 | +2,17 + 1,82 | 2,21 | |
| | 13 | | 20,40 | 20,40 | 0,08 | 71 35 31,09 | 32,50 | +1,41 | 0,70 | |
| | 14 | | | | 70 | 71 20 55,31 | 54,60 | -0,71 | 0,86 | |
| | 15 16 | 28 32 | 8,42 6,23 | 8,60 5,80 | +0,18 $-0,43$ | 70 52 31,89 | 35,30 | + 3,41 | 0,52 5,40 | 16 1,64 |
| | 17 | 0~ | 0,20 | | | 70 02 01,00 | 00,50 | , 0,11 | 5,32 | 2,0 |
| | 18 | 40 | 1,97 | 1,90 | -0.07 | 70 10 10 1 7 | 32,60 | +0.45 | 3,56 | |
| | 19 20 | 44 48 | 0,87 | 0,90 | +0.03 + 0.22 | 70 12 32,15 69 59 55,80 | 51,80 | -4,00 | 6,78 5,96 | |
| | 21 | 52 | 0,10 | 0,30 | +0,20 | 69 47 33,68 | 31,40 | -2,28 | 5,96 | |
| | 22 23 | 56 | 0,84 | 0,90 | + 0.06 | 69 35 33,21 69 23 51,81 | 31,80 53,20 | $\begin{array}{c c} -1,41 \\ +1,39 \end{array}$ | 3,74 4,62 | 1,26 2,82 |
| | 24 | 4 0 4 | 1,66 3,51 | $\frac{1,90}{3,80}$ | +0.24 +0.29 | 69 12 34,03 | 35,20 | +1,87 | 5,76 | 0,10 |
| | 25 | 8 | 5,52 | 5,40 | -0,12 | 69 1 35,19 | 40,00 | + 4,81 | 5,58 | 2,54 |
| | 26 | 12 | 8,12 | 7,80 | -0.32 | 68 51 1,85 | 5,80 | + 3,95 | 1,18 | 1. 2 |
| | 28 29 | | 14,56 $18,42$ | 14,30 18,10 | -0,26 -0,32 | 68 30 58,41 | 3,10 | + 4,69 | 1,40 2,82 | |
| | 30 | 28 | 22,89 | 22,50 | -0.39 | 68 12 25,59 | 30,20 | | 2,45 | 0,56 |
| June | 31 | | $27,57 \\ 33,17$ | 27,30 32,60 | -0.27 | 67 33 44,01 67 55 23,61 | 47,30 27,30 | +3,29 +3,61 | 2,70 | |
| June | 1 4 | | 50,84 | 50,80 | -0.57 -0.04 | 07 55 25,01 | 21,50 | 1 3,01 | 3,78 | |
| 1 | 5 | <i>5</i> 2 | 57,64 | 57,50 | -0,14 | | | | 1,94 | |
| | 6 7 | 57 5 l | 4,65 | 4,60 11,90 | -0.05 | 67 19 31,42 67 13 31,71 | 34,90 35,20 | +3,48 + 3,49 | 1,35 1,46 | |
| | 8 | | 11,92 19,69 | 19,70 | -0.02 | 67 7 53,48 | 59,20 | +5,72 | 2,38 | 1,18 |
| | 9 | 9 | 27,86 | 27,60 | -0,26 | 67 2 45,78 | 47,30 | +1,52 | 15 59,40 | 15 58,12 |
| | 10 | | 36,23 | 36,00 | -0.23 | 66 58 0,04 66 53 35,48 | 59,70 36,30 | $\begin{array}{c} -0.34 \\ +0.82 \end{array}$ | 16 1,28 | |
| | 11 12 | | 44 ,68 54 ,05 | 44,60 53,40 | -0.08 -0.65 | 66 49 34,49 | 37,20 | +2,71 | 2,10 | 16 1,30 |
| | 13 | 26 | 3,19 | 2,50 | -0,69 | 66 46 2,33 | 2,60 | +0,27 | 2,82 | |
| | 15 | | 21,04 | 20,90 | -0.14 | 66 40 2,00 | 7,40 | +5,40 | 2,82 | |
|] | 16 17 | | 30,55 40,08 | 30,40 | -0.15 -0.18 | 66 37 45,86 66 35 48,77 | 46,80 50,90 | | 3,60 2,76 | 1,32 |
| | 18 | 46 | 49,66 | 49,40 | -0,26 | 66 34 18,84 | 19,80 | +0,96 | 2,60 | |
| | 19 | | 58,49 | | +0.51 | 66 33 11,35 | 13,50 | +2,15 | 2,02 | |
| | 20 21 | 55 | 9,29 | 8,70 | - 0,59 | 66 32 32,33 66 32 12,88 | $\begin{vmatrix} 32,20 \\ 15,70 \end{vmatrix}$ | -0,13 + 2,82 | 2,28 0,38 | 3,45 |
| | 22 | | | | | 66 32 21,88 | 23,90 | +2,02 | 2,22 | 3,10 |
| | 28 | 6 28 | 23,74 | 23,10 | -0,64 | 66 41 53,58 | 54,00 | | | 2.00 |
| July | 30 1 | | | | | 66 48 19,60 | 20,60 | | 1,98 | 3,38 |
| 1 | 2 | | 56,82 | | | 66 56 23,07 | 23,40 | | 1,98 | 1,88 |
| | 3 | 46 | 4,49 | 4,10 | - 0,39 | | | | 4,45 | |
| | 4 5 | | | * 1 | | 67 11 28,29 | 30,90 | + 2,61 | 1,34 0,44 | |
| | 6 | | | | | 67 17 21,20 | | | | |

| | | Right Ascension | | Duna - of | North Polar D | istance | Error of | Mean Sem | idiameter. | | |
|------|------------|-----------------|------------|----------------|-----------------|------------------|--|----------------|----------------|---------------------|----------------|
| 183 | 6 | ob | froi | m ation. | from N. A. | Error of Tables. | from observation. | from N. A. | Tables. | Horizontal. | Vertical. |
| | — <u>-</u> | h. | m. | s. | s. | " | 0 / " | " | * | 1 4 | 1 " |
| July | 7 | | | | | | 67 23 29,38 | 34,40 | +5,02 | 16 1,62 | |
| | 9 | 7 | | 44,69 | 44,00 | 0,69 | 67 37 11,21 | 12,20 | +0,99 | 0,92 | 15 59,95 |
| | 10 | | 17 | 4 9,94 | 49,40 | -0,54 | 67 44 33,17 | 36,00 | +2,83 | 15 59,88 | 58,30 |
| Ì | 11 | | | | | | 67 52 21,46 | 22,90 32,50 | +1,44 +4,60 | 16 2,18 0,78 | 16 1,75 |
| | 12 13 | | | | | | 68 9 3,34 | 5,00 | +1,66 | 3,34 | |
| | 14 | | 34 | 7,47 | 6,80 | -0.67 | 68 17 54,87 | 59,80 | +4,93 | 1,40 | |
| į | 15 | | 38 | | 10,00 | -0.26 | 68 27 13,12 | 16,90 | +3,78 | 2,52 | |
| | 16 | | 42 | 13,09 | 12,70 | 0,39 | 68 36 55,13 | 56,10 | +0.97 | 1,90 | |
| | 17 | | 4 6 | 15,22 | 14,80 | -0,42 | 68 46 53,39 | 57,10 | +3,71 | 2,02 | |
| 1 | 18 | | ر ب | 1 7 00 | 16 40 | 0.40 | 68 57 15,01 | 19,60 | +4,59 | 0,70 | |
| | 19 20 | | | 17,89 18,25 | 17,40 17,80 | -0,49 -0,45 | 69 8 2,44 69 19 8,42 | 3,70 8,80 | +1,26 +0,38 | 1,68 | |
| Ì | 23 | | 20 | 10,20 | 17,00 | -0,45 | 69 54 30,55 | 28,40 | -2,15 | 1,26 | 1,06 |
| * | 26 | 8 | 22 | 8,02 | 8,20 | +0,18 | 70 32 48,15 | 48,70 | +0.55 | 0,72 | |
| | 27 | | 26 | 4,95 | 4,60 | -0,35 | 70 46 18,08 | 14,40 | -3,68 | 15 57,72 | |
| | 28 | | 30 | 0,50 | 0,20 | —0,30 | 71 0 0,38 | 59,10 | -1,28 | 16 1,86 | 15 59,12 |
| | 30 | | | | | | 71 28 23,94 | 24,50 | +0,56 | 2,18 | Maria Maria |
| Aug. | 2 | | | | | | 72 13 22,47 | 18,90 | —3,57 | 1,70 | |
| | 4 9 | | | | | | 74 8 4,46 | 3,10 | -1,36 | 1,64 1,30 | 16 0,88 |
| | 10 | | | | | , | 74 25 34,69 | 30,40 | -4,29 | 0,86 | 10 0,00 |
| | 14 | | | | | | 75 37 52,73 | 47,30 | -5,43 | -, | |
| ĺ | 15 | | | | | | 75 56 28,58 | 26,80 | -1,78 | 1,40 | 15 58,20 |
| | 16 | 1 | | | | | 76 15 19,51 | 19,70 | +0,19 | 2,40 | |
| | 17 | 9 | 46 | | 32,00 | -0,10 | 76 34 22,57 | 25,60 | +3,03 | 0,62 | 16 0.75 |
| | 18 | | 50 | 15,95 | 15,70 | -0,25 | 76 53 43,25 77 13 18,33 | 44,30 15,30 | +1,05 $-3,03$ | 1,92 2,64 | 16 0,75 |
| | 19 21 | 10 | 1 | 24,21 | 23,90 | 0,31 | 77 10 10,00 | 10,00 | 5,00 | 3,68 | |
| | 22 | 10 | | ~ 4,~ 1 | 20,50 | 0,01 | 78 12 56,01 | 59,80 | +3,79 | 2,42 | |
| į | 23 | | 8 | 47,00 | 46,80 | -0,20 | 78. 33 19,40 | 17,20 | _2,20 | 2,05 | |
| | 25 | | | | | | 79 14 25,41 | 24,10 | -1,31 | 1,80 | |
| | 27 | | 23 | 27,74 | 27,60 | -0,14 | 79 56 17,9 5 | 11,70 | -6,25 | 2,30 | |
| Sep. | 7 | 11 | | 22,55 | 22,40 58,60 | -0,15 $-0,09$ | am A a a a a a a a a a a a a a a a a a a | | | 1,28 2,25 | |
| | 8 9 | | | 58,69 34,77 | 34,80 | -0,09 +0,03 | 84 41 43,17 | 38,70 | _4,47 | 1,26 | |
| | 11 | | | 46,79 | 46,70 | -0,09 | 85 27 14,99 | 13,90 | -1,09 | 2,00 | |
| | 12 | | 21 | 22,28 | 22,50 | +0,22 | 85 50 11,29 | 8,90 | 2,39 | 1,62 | 15 59,72 |
| | 16 | | | 44,70 | 44,60 | -0,10 | 87 22 31,57 | 29,00 | -2,57 | 1,64 | 52,62 |
| | 17 | | | | | | 87 45 41,96 | 42,40 | +0,44 | 1 00 | 16 0,84 |
| | 18 | | A C | 20.00 | 20.00 | 1000 | 88 8 55,10 | 58,30 | +3,20 | 1,02 15 58,00 | |
| | 19 20 | | 46 50 | 30,82 6,42 | 30,90 6,30 | +0.08 -0.12 | 88 <i>55</i> 36,69 | 36,80 | +0,11 | 59,72 | 1,66 |
| | 21 | | | 42,03 | 41,80 | -0.12 -0.23 | 89 18 59,54 | 58,40 | -1,14 | 16 1,38 | -,00 |
| 1 | 22 | | | 17,44 | 17,40 | -0,04 | 89 42 24,65 | 21,60 | -3,05 | 0,98 | 3,02 |
| | 23 | 12 | 0 | 53,26 | 50,03 | -0,26 | | | | 3,52 | |
| j | 24 | | | 28,85 | 28,80 | -0,05 | 00 70 00 7 | 0 | 1000 | 15 58,60 | |
| j | 25 | | 8 | 4,59 | 4,60 | +0,01 | 90 52 32,54 | 35,20 | +2,66 | 58,20 | |
| | 26 27 | | 11 | 40,99 | 40,70 | 0,29 | 91 16 2,37 91 39 25,30 | 0,00 $24,70$ | -2,37 $-0,60$ | 16 0,32 15 57,96 | |
| | 28 | | | | | | 92 2 51,39 | н | -2,79 | 16 1,98 | |

| | | Right Asce | nsion | Error of | North Polar D | istance | Error of | Mean Sem | diameter. |
|--|--|--|---|--|---|--|--|--|-----------------|
| 183 | 36 | from observation. | from N. A. | Tables. | from observation. | from N A. | Tables. | Horizontal. | Vertical. |
| Sep. | 29 30 | h. m. s. 12 22 30,78 26 7,30 | 7,30 | -0,35 0,00 | 92 26 12,20 | 11,60 | 0,60 | 16 0,84 15 59,20 | , ", |
| Oct. | 1 4 5 6 7 8 9 | 29 45,0 40 38,4 47 56,0 51 35,5 55 15,2 58 55,8 | 38,40 36,10 5 35,50 0 15,40 | $ \begin{vmatrix} 0,00 \\ +0,02 \\ -0,05 \\ +0,20 \end{vmatrix} $ | 94 22 40,39 94 45 51,21 95 9 0,74 95 55 2,68 96 17 54,45 | 41,10 51,40 58,10 0,10 54,50 | -2,58 | 16 1,30 3,16 1,84 0,88 0,80 3,32 | |
| | 10 11 12 13 14 15 16 | 13 2 36,5 6 17,7 9 59,6 13 41,8 17 23,9 21 7,6 24 51,7 | 7 36,40 8 17,60 7 59,30 9 41,60 7 24,30 0 7,60 | $ \begin{array}{c c} -0,17 \\ -0,18 \\ -0,37 \\ -0,29 \\ +0,33 \\ 0,00 \end{array} $ | 96 40 45,03 97 3 23,18 97 26 2,62 97 48 36,53 98 10 59,48 | 43,80 27,80 6,00 | -1,23 $+4,62$ $+3,38$ $+1,47$ | 2,92 0,70 1,40 2,16 1,70 3,67 3,84 2,92 | |
| | 18 19 20 21 22 23 24 | 32 20,8 36 6,3 39 52,7 43 39,3 47 27,0 51 15,1 | $egin{array}{c c} 3 & 6,40 \\ 0 & 52,60 \\ 4 & 39,30 \\ 1 & 26,80 \\ \end{array}$ | $\begin{array}{c c} +0.07 \\ -0.10 \\ -0.04 \\ -0.21 \end{array}$ | 99 39 33,70 100 1 19,10 100 23 0,87 100 44 25,38 101 5 44,16 | 32,40 19,20 57,10 25,60 44,30 51,40 | $ \begin{vmatrix} +0,10 \\ -3,77 \\ +0,22 \\ +0,14 \end{vmatrix} $ | 4,72 3,57 2,50 1,92 15 58,50 | |
| | 25 26 28 | 58 53,7 14 10 26,4 | | | 102 8 38,39 102 29 13,10 | 39,10 15,50 | $\begin{vmatrix} +0.71 \\ +2.40 \end{vmatrix}$ | 2,82 | 15 59,88 |
| Nov | . 2 5 6 7 8 9 | 45 47,4 49 48,2 53 48,6 57 50,3 | 8 47,80 6 48,60 6 50,20 | $\begin{array}{c c} -0,48 \\ -0,06 \\ -0,16 \end{array}$ | 104 47 43,31 105 43 38,11 106 1 46,61 106 19 37,40 106 54 34,34 107 11 34,52 | 39,40 | $\begin{array}{c c} +1,99 \\ +1,19 \\ +2,00 \\ \hline -1,44 \end{array}$ | 6,34 6,50 | 16 1,64 0,96 |
| ement beautification controller and the controller | 11 12 13 22 23 24 | 5 56,5 10 0,5 51 28,0 55 40,6 | 7 56,00 2 0,20 0 27,30 0 40,40 | $\begin{array}{c c} -0.57 \\ -0.32 \\ -0.70 \end{array}$ | 107 44 39,18 108 0 45,82 110 10 48,53 110 23 29,13 | 42,20 48,70 | $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 4,66 4,45 3,40 5,62 5,54 2,32 | |
| Dec | 25 26 27 28 29 | 16 4 9,1 8 24,6 12 40,8 16 57,6 | 6 24,50 6 40,60 8 57,60 | $\begin{array}{c c} -0.16 \\ -0.26 \\ -0.08 \end{array}$ | 110 59 8,64 111 10 14,52 111 21 1,82 111 31 20,53 111 50 44,48 | 9,90 17,30 0,70 20,10 44,90 | +2,78 $-1,12$ | 15 58,70 16 3,48 4,77 2,12 2,56 | |
| AND A COLUMN TO THE OWNER OF THE OWNER O | 2 4 5 6 7 | 42 53,4 47 15,1 51 37,1 | 2 53,50 8 15,00 0 37,10 | +0,08 -0,18 0,00 | 111 59 47,39 112 16 43,69 112 24 29,91 112 31 51,23 112 38 49,79 | 50,00 43,30 31,20 52,90 | $ \begin{array}{r r} +2,61 \\ -0,39 \\ +1,29 \\ +1,67 \end{array} $ | 8,86 4,00 5,02 4,76 2,43 | 0,80 |

| 183 | G | Right Ascer | nsion | Error of | North Polar D | istance | Error of | Mean Semi | diameter. |
|------|--|--|---|--|---|---|--|--|---|
| 100 | | from observation. | from N. A. | Tables. | from observation. | from N. A. | Tables. | Horizontal. | Vertical. |
| Dec. | 11 12 13 | h. m. s. 17 13 34,99 17 59,84 | s. 34,70 59,50 | 0,29 0,34 | 113 1 57,36 113 6 38,05 | 0,30 40,00 | + 2,94 + 1,95 | 16 5,14 5,12 | 1 11 |
| | 16 17 19 20 | 40 7,85 49 0,82 | 7,60 0,20 | - 0,62 | 113 20 38,91 113 22 57,07 113 26 16,19 | 41,60 2,00 18,20 | + 2,69 + 4,93 + 2,01 | 1,38 5,16 4,85 3,14 | |
| | 23 24 27 | 53 27,01 18 6 46,87 11 13,37 | 26,70 46,30 13,00 | | 113 27 10,92 113 26 13,43 113 20 31,57 | 11,50 14,10 32,70 | + 0,58 + 0,67 + 1,13 | 4,00 4,07 4,40 | 16 2,43 0,26 15 59,65 |
| 183 | | 42 15,54 | 15,60 | + 0,06 | 113 17 41,18 113 14 24,88 113 6 20,17 | 42,70 24,50 24,30 | +1,52 $-0,38$ $+4,13$ | 4,60 2,17 3,14 | 16 0,48 2,54 |
| Jan. | 2 3 5 6 | 55 30,60 19 4 18,87 8 42,53 | 30,50 18,50 41,90 | - 0,10 - 0,37 - 0,63 | 112 56 29,64 50 55,34 38 19,13 31 22,36 | 33,10 56,30 20,80 22,60 | +3,46 $+0,96$ $+1,67$ $+0,24$ | 5,17 8,18 7,34 6,85 | 15 59,44 16 0,37 15 57,41 58,15 |
| | 7 8 9 10 11 12 | 13 5,30 17 27,68 21 49,45 26 11,03 30 31,52 | 4,80 27,50 49,10 10,40 31,20 | 0,32 | 24 1,01 16 8,08 7 45,93 111 59 3,92 49 55,77 | 57,60 6,20 48,60 4,90 55,50 | $ \begin{array}{r} -3,41 \\ -1,88 \\ +2,67 \\ +0,98 \\ -0,27 \end{array} $ | 5,85 6,13 3,82 3,37 3,54 | 16 1,96 15 59,73 16 0,98 |
| | 13 15 16 17 | 34 <i>5</i> 1,76 39 10,99 | 51,40 10,80 | 0,36 0,19 | 40 20,05 9 3,41 110 57 52,15 46 11,47 | 5,90 52,00 14,30 | +0,55 $+2,49$ $-0,15$ $+2,83$ | 2,82 15 57,40 16 0,52 2,16 | 15 59,07 57,07 |
| | 18 19 20 21 22 23 24 | 20 4 53,92 9 7,82 13 21,38 17 34,63 21 46,83 25 58,45 | 53,30 7,70 21,40 34,40 46,60 58,00 | - | 34 15,28 21 51,43 9 2,85 109 55 54,25 42 21,28 28 24,67 14 5,85 | 12,90 48,40 1,00 50,90 18,70 24,60 8,90 | -2,38 $-3,03$ $-1,85$ $-3,35$ $-2,58$ $-0,07$ $+3,05$ | 3,34 2,47 15 59,93 59,37 16 1,52 1,80 2,74 | 59,07 57,84 16 0,17 1,19 2,06 |
| | 25 26 27 28 29 30 | 30 8,79 34 18,46 38 27,78 42 36,22 46 43,54 50 50,31 | 8,60 18,40 27,50 35,70 43,10 49,70 | | 108 59 28,16 44 29,49 29 12,39 13 34,71 107 57 36,06 41 21,06 | 32,10 34,50 16,50 38,30 40,40 23,20 | +3,94 $+5,01$ $+4,11$ $+3,59$ | 2,92 15 59,00 16 2,28 2,05 5,32 2,02 | 15 58,02 58,97 16 1,00 15 57,80 |
| Feb. | 31 2 3 4 5 6 | 59 0,80 21 3 4,66 7 8,55 11 10,75 15 12,96 19 13,84 | 0,50 4,60 8,00 10,60 12,40 13,30 | -0,54 | 7 49,33 106 50 35,36 33 6,15 15 17,07 105 57 18,11 38 56,60 | 52,40 39,60 9,10 21,30 16,70 55,70 | $\begin{vmatrix} +2,95 \\ +4,23 \\ -1,41 \end{vmatrix}$ | 2,45 2,08 5,02 2,52 1,62 2,14 1,00 | 59,15 |
| | 7 8 9 | 23 13,43 27 12,69 | 13,30 12,60 | $\begin{bmatrix} -0,13 \\ -0,09 \end{bmatrix}$ | 1 31,04 104 42 21,02 | 26,00 18,30 | 5,04 | 1,98 3,30 | 16 4,07 1,92 |

| | Right Ascen | ision | Error of | North Polar Di | istance | Error of | Mean Sem | idiameter. |
|---|--|---|--|---|---|--|---|--|
| 1837 | from observation. | from N. A. | Tables. | from observation. | from N. A. | Tables. | Horizontal. | Vertical. |
| Feb. 10 11 12 13 14 15 16 17 18 19 20 21 24 25 26 27 28 Mar. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 | from | from N. A. s. 8,80 5,70 57,19 51,60 45,40 38,50 30,90 22,20 13,10 37,10 22,70 7,80 52,30 36,30 19,80 2,80 45,40 27,40 9,20 50,60 31,60 12,40 52,60 | + 0,13 - 0,22 - 0,33 - 0,44 - 0,25 - 0,71 - 0,89 - 0,88 - 0,44 - 0,64 - 0,39 - 0,24 - 0,19 + 0,11 + 0,13 + 0,10 - 0,03 - 0,02 + 0,08 + 0,02 + 0,08 + 0,02 + 0,08 + 0,10 - 0,24 + 0,10 - 0,03 - 0,24 - 0,03 - 0,21 - 0,03 - 0,21 - 0,03 - 0,03 - 0,21 - 0,03 - 0,03 - 0,21 - 0,03 - 0,03 - 0,03 - 0,03 - 0,03 - 0,03 - 0,10 - 0,03 | from observation. 0 | from N. A. 55,80 18,00 28,50 24,60 7,80 38,50 57,00 3,90 59,50 44,10 18,00 42,10 23,50 54,70 18,40 35,10 45,20 48,90 46,90 39,40 26,70 9,40 47,90 22,60 53,90 22,30 48,10 | + 4,53 + 1,66 + 2,33 + 5,01 + 6,55 + 5,10 + 0,60 + 1,27 + 0,68 + 3,96 + 0,70 + 4,33 + 2,55 + 1,47 + 0,73 - 2,48 + 0,04 - 0,37 + 0,04 - 1,87 - 0,78 - 1,28 + 2,09 + 5,35 | | |
| 19 20 21 22 23 24 25 26 27 28 29 30 | 0 8 59,74 12 37,77 14 15,17 23 31,73 27 8,95 30 46,71 34 25,55 | 59,70 37,70 15,60 31,40 9,30 47,30 25,40 | $ \begin{array}{r} -0.04 \\ -0.07 \\ +0.43 \end{array} $ $ \begin{array}{r} -0.33 \\ +0.35 \\ +0.59 \\ -0.15 \end{array} $ | 36 14,59 12 29,46 89 48 45,32 25 5,56 1 24,70 88 37 47,97 14 12,12 87 50 44,10 27 13,12 3 45,31 86 40 21,81 17 4,74 | 7,80 26,30 45,50 6,00 26,70 51,00 16,20 43,80 14,00 47,30 23,70 4,00 | - 6,79 - 3,16 + 0,18 + 0,44 + 2,00 + 3,03 + 4,08 - 0,30 + 0,88 + 1,99 + 1,89 - 0,74 | 16 1,48 2,82 15 55,82 16 1,88 1,40 15 59,34 16 0,68 1,44 0,87 0,84 0,48 1,25 | 15 59,62 16 1,84 1,15 0,37 15 59,86 16 1,30 2,84 1,32 15 58,95 |
| 31 April 1 2 3 | 38 3,24 41 41,90 45 19,99 48 58,45 | 3,50 41,60 20,00 | $\begin{vmatrix} +0,26 \\ -0,30 \\ +0,01 \end{vmatrix}$ | 85 53 47,78 30 33,72 7 33,40 84 44 34,53 | 48,20 36,80 30,10 | | 1,97 0,64 0,35 | 59,87 16 1,40 |

| 1008 | Right Asce | nsion | Error of | North Polar Di | stance | Error of | Mean Semi | idiameter. |
|--|--|--|---|--|---|---|---|--|
| 1837 | from observation. | from N. A. | Tables. | from observation. | from N. A. | Tables. | Horizontal. | Vertical. |
| April 4 5 6 7 8 9 11 12 | 1 | 52,90 12,80 53,20 | * +0,12 -0,20 -0,06 -0,03 +0,28 | 84 21 37,58 83 58 41,87 36 0,39 13 21,02 82 50 49,49 28 26,31 81 44 5,52 22 6,05 | 32,50 42,40 58,50 21,00 50,60 27,50 4,70 5,70 | $ \begin{array}{r} -0.02 \\ +1.11 \\ +1.19 \\ -0.82 \\ -0.35 \end{array} $ | 16 0,77 15 59,50 59,20 59,80 16 0,37 1,96 1,43 2,00 | 16 2,02 4,15 3,68 3,24 15 58,84 16 0,85 |
| | 29 15,06 32 55,94 40 19,31 44 2,02 47 44,38 51 27,87 55 11,20 58 55,42 2 2 39,60 6 24,63 10 10,23 13 55,95 17 42,43 21 29,50 25 17,16 29 4,70 32 53,35 40 32,24 44 22,34 | 14,70 55,90 19,50 1,80 44,50 27,60 11,20 55,10 39,60 24,50 9,90 55,80 42,10 29,10 16,60 4,60 53,10 42,20 31,90 | -0,03 -0,36 -0,04 +0,19 -0,22 +0,12 -0,27 0,00 -0,32 0,00 -0,13 -0,33 -0,15 -0,33 -0,15 -0,56 -0,10 -0,25 -0,15 -0,34 -0,14 | 0 17,62 80 38 38,25 17 4,54 79 55 44,21 34 33,32 13 25,28 78 52 28,82 31 53,18 11 26,64 77 52 6,64 32 4,97 11 11,68 76 51 32,63 32 2,22 12 49,79 75 53 46,03 35 1,97 16 26,24 74 58 11,16 40 1,39 22 10,71 4 34,51 73 47 17 31 | 15,50 34,20 2,30 40,30 28,40 26,70 35,80 10,00 4,60 11,50 30,90 46,70 59,00 25,70 6,60 23,10 39,30 39,30 | +6,98 +2,62 +0,46 +3,36 -0,37 -0,18 -1,73 +0,69 +0,67 -2,97 -0,54 -4,56 +0,91 +2,39 +4,79 | 0,60 0,90 1,62 0,28 15 59,84 16 1,57 4,45 2,18 0,15 1,42 2,07 0,90 1,26 1,70 0,97 1,30 0,24 2,32 2,18 0,92 0,92 0,95 | 15 58,22 58,44 57,18 16 2,16 2,38 0,95 15 58,25 16 1,02 15 59,62 16 0,87 15 58,43 16 0,68 15 59,71 16 0,34 1,44 15 59,97 59,08 16 0,33 1,64 1,86 1,44 1,5 59,56 |
| 10 11 11 12 14 14 14 12 22 22 22 | 3 7 35,42 11 29,69 15 24,40 3 4 3 4,28 5 7 6,33 | 29,40 24,10 3,90 | 0,02 0,29 0,30 0,38 0,57 | 73 47 17,31 30 15,14 72 57 0,56 40 49,11 24 56,36 9 20,37 71 54 2,65 39 2,27 24 19,24 9 56,97 70 55 53,51 42 7,03 28 52,05 69 26 43,39 15 19,85 4 18,85 68 33 20,71 | 21,30 19,40 5,00 53,30 58,90 22,30 3,60 3,30 21,50 58,60 54,80 10,40 45,50 43,10 20,70 19,50 25,60 | +4,26 +4,44 +4,19 +2,54 +1,93 +0,95 +1,03 +2,26 +1,63 +1,29 +3,37 -6,55 -0,29 +0,85 +0,65 | 16 1,40 15 59,54 16 1,10 0,60 1,98 1,37 0,46 1,90 2,05 0,64 15 59,62 16 2,56 1,82 0,48 | 15 59,56 16 0,72 15 57,56 16 1,00 0,24 1,95 |
| 2 3 3 | 9 0 27 23,00 | | | 5 45,45 67 57 27,01 | 51,30 25,10 | | 2,78 2,47 1,04 | |

| | Right Ascer | nsion | Error of | North Polar D | istance | Error of | Mean Sem | idiameter. |
|------------------------------|---|---|---|--|---|--|--|--|
| 1837 | from observation. | from N. A. | Tables. | from observ ation | from N. A. | Tables. | Herizontal. | Vertical. |
| June 2 3 4 | h. m. s. 4 39 38,21 | s. 38,30 | +0,09 | 67 49 18,24 41 42,13 34 20,93 | 21,90 41,90 25,20 | +3.66 -0.23 $+4.27$ | 16 0,82 1,02 1,37 | , " |
| 5 6 7 8 | 4 51 57,48 56 4,75 5 0 12,30 4 20,40 | 12,30 | +0.22 $+0.05$ 0.00 -0.40 | 27 30,29 20 59,23 14 54,06 9 13,66 | 32,20 2,70 57,10 15,40 | +1,91 $+3,47$ $+3,04$ $+1,74$ | 1,06 2,22 1,35 1,66 | 15 58,87 58,76 |
| 9 10 11 12 | 8 28,32 12 36,58 16 45,11 20 53,30 | 27.90 36,20 44,60 53,30 | -0,42 -0,38 -0,51 0,00 | 3 55,99 66 59 5,40 54 34,62 50 33,05 | 57,90 4,60 35,60 31,10 | +1,91 $-0,80$ $+0,98$ $-1,95$ | 4,40 1,66 3,54 2,82 | 30,.0 |
| 13 14 15 16 | 25 2,12 25 10,98 33 20,60 37 29,79 | 2,10 11,00 20,20 29,40 | -0.02 +0.02 -0.40 -0.39 | 46 44,64 43 36,19 30 43,80 38 15,72 | 51,00 35,10 44,40 18,20 | +6,36 $-1,09$ $+0,60$ $+2,48$ | 1,75 0,86 0,57 0,02 | |
| 17 18 19 22 23 | 41 38,61 6 2 25,94 6 35,60 | 26,20 35,60 | +0,09 | 36 14,74 34 33,70 33 26,08 32 17,08 | 16,50 39,60 27,50 19,20 | $+5,90 \\ +1,42 \\ +2,12$ | 0,72 15 59,84 16 3,54 2,52 | |
| 24 25 26 27 | 10 44,76 14 54,20 19 3,92 23 12,43 | 45.10 54.40 3,60 12,90 | 0,00 $+0,34$ $+0,20$ $-0,33$ $+0,47$ | 32 44,25 33 30,50 34 55,90 36 31,31 38 41,04 | 46,00 37,60 54,00 35,10 40,80 | +1,75 $-1,90$ $+3,79$ $-0,24$ | 0,75 15 59,50 16 1,22 0,75 16 0,88 | And Anti-Anti-Anti-Anti-Anti-Anti-Anti-Anti- |
| 29 30 July 1 2 3 | 31 30,61 35 39,58 | 30,80 | $\begin{array}{c c} +0.19 \\ -0.18 \end{array}$ | 44 2,47 47 24.98 51 11,67 55 20,18 | 6,20 25,70 9,70 18,00 | +3,73 +0,72 -1,97 -2,18 | 15 59,95 57,82 59,20 59,95 | Andrigat deliverance and the property of the second |
| 34 5 6 7 | 48 4,92 | 4,00 | 0,92 | 67 4 46,40 10 6,79 15 52,86 22 1,37 | 47,00 8,60 52,00 | +0.60 $+1.81$ -0.86 | 15 58,58 16 0,12 16 0,70 15 59,95 | |
| 8 9 10 11 12 | 7 8 39,58 12 44,99 16 50,15 20 55,43 24 59,84 | 39,00 44,80 50,30 55,30 59,80 | $ \begin{array}{c c} -0.58 \\ -0.19 \\ +0.15 \\ -0.13 \end{array} $ | 28 23,87 35 26,79 42 39.51 50 28,30 | 26.80 | $ \begin{array}{c c} -1,27 \\ +0,21 \\ +5,89 \\ -1,50 \end{array} $ | 16 0,92 0,86 1,35 1,77 1,30 | i. |
| 13 14 15 16 | 28 4,62 33 8,11 37 11,58 41 13,36 | 3,90 7,50 10,70 | -0,04 -0,72 -0,61 -0,88 -0,06 | 58 25,29 68 6 52,95 15 38,20 24 58,01 34 25,74 | 57,80 47,10 58,60 32,10 | $+5,61 \\ +4,85 \\ +0,59$ | 2,45 15 59,34 16 1,44 1,12 | |
| 17 18 19 20 23 | | 18,00 18,40 | $ \begin{array}{c c} -0,50 \\ -0,52 \\ -0,11 \\ -0.27 \end{array} $ | 44 25,30 54 35.59 69 5 21,21 | 27,40 44,30 22,60 | +2,10 +1,39 | 15 59,50 16 2,30 | |
| 24 25 27 28 | 29 3,04 | 2,30 | -0,27 -0,74 | 70 3 48,69 16 24,97 42 54,41 | 47,90 29,90 51,80 | $ \begin{array}{c c} -3,40 \\ -0,79 \\ +4,93 \\ -2,61 \\ +3,04 \end{array} $ | 1,06 0,08 | |

| | | F | Righ | t Ascer | sion | Error of | Nor | th | Polar I | Distance | Error of | Me | an Semi | idiamete | r. |
|------|-------------------------------|-----|----------------------|--|--|--|----------|---------------------------|--|--|---|--------------------|--|-------------------------------|--------|
| 183 | 37 | obs | fro serv | n ation. | from N. A. | Tables. | ob | fro serv | m ation. | from N. A. | Tables. | Hor | izontal. | Vertica | ıl. |
| July | 30 | h. | m. | s. | s. | S | 71 | 24 | 34,87 47,94 | 32,60 50,60 | -2,27 $+2,66$ | 16 | 1,62 2,14 | | |
| Aug. | 31 2 3 | | 48 | 34,21 | 33,70 | 0,51 | 72 | | 26.92 30,94 | 26,10 33,10 | -0.82 + 2.16 | | 2,27 59,56 59.07 | | |
| | 5 7 9 10 11 12 | 9 | 15 19 23 | 49,62 27,73 16,00 3,65 50,67 | 49,40 27,50 15,70 3,30 50,20 | -0.22 -0.23 -0.30 -0.35 -0.47 | | 29 3 21 38 | 53,21 50,51 53,13 13.34 55,51 50,33 | 54,00 51,20 52,10 16,60 54,10 47,30 | | 16 | 0,70 0,82 1,50 1,24 0,95 1,06 | | |
| | 13 20 21 | 10 | | 36,80 29,38 | 36,70 28,90 | -0,10 $-0,48$ | 75 77 | 15 28 | | 54 90 4,80 | + 3,60 | 16 15 | 0,20 58,74 | • | |
| | 22 23 24 25 | 10 | 4 7 11 | 10,69 52,48 33,31 | 10,80 52,20 33,20 | $ \begin{array}{r} -0,48 \\ +0,11 \\ -0,28 \\ -0,11 \end{array} $ | 78 79 | 28 | 54,37 9,16 38,59 13,15 | 59,80 13,50 40,30 16,90 | +5,43 $+4,34$ $+1,71$ $+3,75$ | 15 | 0,24 59,84 59,12 | | 7 1 |
| | 28 29 30 31 | | | 13,48 52,51 | 13,40 52,50 | — 0,08 — 0,01 | 81 | | 22,19 55,36 20,96 | 24,80 50,50 24,90 | | 16 16 | 0,64 1,44 0,28 0,55 | i d | |
| Sep. | 1 2 4 5 6 7 | | | 2 | | | 82 | 38 59 44 6 28 | 7,20 56,01 | 7,70 57,60 2,00 15,00 35,70 0,80 | $+0,50 \\ +1,59$ | 15 16 16 | 59,92 1,10 2,98 58,65 1.80 | | |
| | 8 9 10 11 | 11 | 9 | 43,18 30,11 | 42,70 30,00 | 0,48 | , | 13 36 58 21 | 32,39 11,18 57,69 44,47 | 33,00 11,90 53,90 42,00 | $ \begin{array}{r} + 0.61 \\ + 0.72 \\ - 3.79 \\ - 2.47 \end{array} $ | 15 16 | 59,82 | | |
| | 12 13 14 15 16 | | 24 27 31 | | 5,50 40,90 16,40 51,70 | $ \begin{array}{c c} -0.11 \\ -0.22 \\ -0.30 \\ -0.29 \\ -0.08 \end{array} $ | 86 87 | 7 30 53 | 40,46 32,11 36,22 37,86 48,83 | 35,80 32,10 33,40 38,40 47,00 | $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | 0,60 1,17 0,52 0,37 | | |
| | 17 18 19 20 | | 38 42 45 49 | 27,60 2,70 37,76 13,46 | 27,00 2,40 37,80 13,20 | $ \begin{array}{c c} -0,60 \\ -0,30 \\ +0,04 \\ -0,26 \end{array} $ | 88 | 39 3 26 | 55,75 11,53 31,04 51,21 | 58,70 13 30 31,60 50,20 | $\begin{vmatrix} +2,95 \\ +1.77 \\ +0,56 \\ -1,01 \end{vmatrix}$ | | 1,15 0,66 1,37 0,20 | | |
| | 21 22 23 24 | İ | 0 3 | 24,38 0,02 35,65 | 48,70 24,20 0.00 35,90 | $\begin{vmatrix} +0,11\\ -0,18\\ -0,02\\ +0,25 \end{vmatrix}$ | 1 | 13 36 0 23 | 14,71 39,94 2,65 29,99 | 12,60 34,70 59,10 24,30 | $ \begin{array}{r r} -2,11 \\ -5,24 \\ -3,55 \\ -5.69 \end{array} $ | 16 | 59,77 1,44 | Alban Esperandoral California | |
| | 25 26 27 28 | 12 | 7 10 14 18 | 48,25 24,73 | 24,50 | | | 10 33 57 | 5 51.60 17,76 3 41.44 4 11,49 | 7,70 | $\begin{vmatrix} -1,56 \\ +0,76 \\ -3,79 \end{vmatrix}$ | 16 15 16 | 59,97 1,06 | | |
| Oct. | 5 6 | | | | | | 94 95 | | 21,17 31,37 | | | | 0.22 0,48 | | |

| 183 | 7 | Rig | h t | Ascens | | Error of | Nort | h P | olar Di | stance | Error of | Mea | an Semi | idiameter. |
|---------------------------------------|---|------------|------------|-----------------|----------------|----------|------|-----------|----------------|----------------|--|-----|---|------------|
| | | fı Obse | om rvat | | from N. A. | Tables. | | fron | ation. | from N. A. | Tables. | Hor | izontal. | Vertical. |
| Oct. | 7 | h. m | · , | s. | s. | S | 0 | 0,5 | 24.20 | 20:00 | 2.40 | 10 | 11 | |
| Oct. | 9 | | | • | | | | | 34,32 34,75 | 30,90 25,30 | - 3,42 | 16 | $0.57 \\ 1,12$ | |
| | 10 | 13 | 1 4 | 3,52 | 43,10 | 0,42 | | | 18,17 | 15,00 | -3,17 | 16 | 0,28 | |
| | 11 | | ^ | 0.70 | F F0 | 1.06 | 05 | | 58,43 | 59,30 | | | 59,68 | |
| | 12 13 | 1 | | 6,76 17,81 | 5,50 47,40 | | 97 | 20 43 | 41,73 5,97 | 37,80 10,30 | $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 16 | 1,90 0,92 | |
| | 14 | | | 30,42 | 29,80 | | 98 | | 34,99 | 36,40 | | | 0,92 | |
| | 16 | | | 6,83 | 56,50 | -0,33 | Į | 50 | 4,12 | 8,20 | + 4,08 | | · - | |
| | 17 18 | | | | | | 99 | 12 | 7,14 | 12,90 | | | 59,12 | |
| | 21 | | | | | | 100 | 34 | 9,93 14,10 | 9,60 | | | 59,42 0,92 | |
| | 22 | | | | | | 101 | 0 | | 31,60 | -4,00 | | 1,15 | |
| | 23 | | | | | | 1 | | 38,86 | 43,30 | + 4,44 | 15 | 59,84 | |
| | 24 25 | | | | | | 102 | 42 | 48,59 | 45,10 | | | 59,42 | |
| Nov. | | | | | | | | | 35,41 35,31 | 36,20 30,70 | | | 0,60 58,18 | |
| | 13 | | | | | | 107 | 56 | 52,56 | 55,40 | | | 59,58 | |
| | 19 | | | | | | 108 | 54 | 43,63 | 10,50 | | 16 | | |
| | $\begin{array}{c} 21 \\ 24 \end{array}$ | 15 | 46 | 13,36 | 13,30 | -0,06 | 110 | າດ | EE 07 | 1 40 00 | | 1,6 | 0.00 | |
| | 25 | | | | | | 110 | | 55,07 54,35 | 49,20 | | 16 | 0,30 | |
| | 26 | | | | | | | | 25,09 | | | 15 | 59,56 | |
| | 27 | 1 | 11 | 39,48 | 38,70 | -0,78 | 1111 | 7 | 44,51 | 40,50 | -4,01 | | - | |
| | 29 30 | | | | | | | | 55,64 | 55,80 | | | 0,48 | |
| Dec | | | | | | | ļ | | 59,22 35,62 | 56,90 33,20 | | 1.5 | 59,75 | 1 |
| | 2 | | | | | | | 57 | 46,46 | | | 16 | 0,84 | |
| | 10 | | | | | | 112 | | 35,78 | 35,00 | | 15 | 58,98 | |
| | 11 14 | 1 | | | | | 113 | | 53,21 42,49 | 48,50 44,40 | | | 0,00 $59,92$ | 47-55 |
| | 15 | | | | | | | 17 | 6,12 | 7,70 | | 16 | | |
| · · · · · · · · · · · · · · · · · · · | 16 | | | | | 0.07 | 1 | 19 | 59,82 | 3,10 | +3,28 | 16 | 1,08 | |
| | 19 20 | | | 55,27 21,83 | 55,00 21,60 | | Ì | | 59,57 | 1,10 | | | 58,90 | |
| | 21 | • | | 48,22 | 48,20 | | | 27 27 | 4,85 35,43 | 4,10 38,70 | | 15 | 59,38 | |
| | 22 | Ì | _ | | | | | 27 | 51,48 | 45,00 | | | 1.1 - | |
| | 23 | | 10 | 0 =0 | | 0.10 | 1 | 27 | 24,09 | 23,00 | — 1,09 | | | |
| | $\begin{array}{c} 24 \\ 25 \end{array}$ | | | 8,56° 35,43° | 8,40 35,20 | | | 26 | 32,87 | 32,50 | -0,37 | | | |
| | 26 | | 19 | 2,04 | 1,70 | | | 23 | 26,43 | 26,70 | + 0,27 | | | |
| 1111 | 27 | ! | 23 5 | 28,67 | 28,10 | -0,57 | l | 21 | 9,34 | 11,40 | | | | |
| | 28 | • | | 55,39 | 54,50 | | | 7 - | 3 = 00 | | | | | |
| | 29 30 | | 3Z : | 21,35 | 20,80 | -0,55 | | | 15,39 | 16,40 | +1,01 | | | |
| | 31 | | | | 1 | | | | 34,39 32,70 | 36,70 29,10 | +2,31 -3,60 | | | |
| - : | | | | | | | | • | ,. 0 | -0,10 | 0,00 | l | | |
| | | I | | | | | | | | | | | | |

In conformity with the plan followed in former volumes, I have here computed the value of the Mean Semidiameter of the Sun, from the observed transits—not that I have ever for a moment expected to obtain a very accurate determination by this means,—but rather from a desire of tracing the changes, if any, which might result in the method of estimating time from continued practice: the result has been simply this,—that the observer who at first observed a larger diameter than myself, has, after two or three years practice in observing, continued to observe the same larger diameter; and another Assistant who appeared to note the Diameter in defect, has continued to do so: Among the circle observations too, there appears to be the same cause in operation,—each observer either sees the Sun under a different angle, or forms a different judgment with regard to his being in contact with the wire; the results altogether are as follows—

| | | | | | | un's Mean rizontal. | | iameter. ertical. |
|-------------|-------------------------------------|--|--|--|----|------------------------|----|----------------------|
| From 965 Ob | servations in | former years | primaries in the second | | 16 | *1.48 | | |
| 141 | | Market Control Market M | - | Construction of the constr | | | 16 | 1,59 |
| 489 | - | 1836 and 1837 | - | | | 1,72 | | |
| 150 | hitodissistementeessis, lessocourge | | === | | | | | 0,77 |

Selecting from the above observations those made near to the Solstices, we will proceed to compute the value of the Obliquity of the Ecliptic—

Observations of the Sun made near to the Summer Solstices of 1836 and 1837 applied to the determination of the Obliquity of the Ecliptic.

| | | | | | | | | | Correc | tion for | | ean sticia l |
|------|----|---------|-------|------|---------|-------|-------|-----------------|-------------|--|------------|--------------------------|
| 183 | 6 | N. P. | D. | Redu | ection. | Lat. | | ticial P. D. |) r Nut. | $ \begin{array}{c c} \hline \text{r Nut.} \\ +\frac{t. 0'', 46}{365} \end{array} $ | N. Redu | P. D. nced to n.l. |
| | | 0 / | " | 0 / | 11 | " | 0 / | " | " | 11 | 0 / | " " |
| May | 21 | 69 47 3 | 3,68 | 3 15 | 16,70 | +0,93 | 66 32 | 17,91 | +6,05 | 0,51 | 66 3 | 2 23,45 |
| | 22 | 69 35 3 | 3,21 | 3 3 | 16,46 | 0,95 | | 17,70 | ,06 | ,52 | | 23,24 |
| | 23 | 69 23 5 | 1,81 | 2 51 | 38,46 | 0,93 | | 13,28 | ,06 | ,53 | | 18,81 |
| | 24 | 69 12 3 | 4,03 | 2 40 | 20,18 | 0,89 | | 14,74 | ,07 | ,53 | | 20,28 |
| Ì | 25 | | 5,19 | 2 29 | 24,62 | 0,81 | | 11,38 | ,08 | ,54 | | 16,92 |
| | 26 | 68 51 | 1,85 | 2 18 | 49,76 | 0,72 | | 12,81 | ,09 | ,55 | | 18,35 |
| | 28 | 68 30 5 | 8,41 | 1 58 | 47,03 | 0,48 | | 11,86 | ,09 | ,57 | | 17,38 |
| | 30 | 68 12 2 | 5,59 | 1 40 | 13,33 | 0,21 | | 12,47 | ,10 | ,58 | | 17,99 |
| | 31 | 68 3 4 | 4,01 | 1 31 | 30,50 | 0,09 | | 13,60 | ,11 | ,60 | | 19,11 |
| June | 1 | 67 55 2 | 3,69 | 1 23 | 9,60 | -0,02 | | 14,07 | ,12 | ,61 | | 19,58 |
| 1 | 6 | 67 19 3 | 1,42 | 0 47 | 18,15 | 0,19 | | 13,08 | ,17 | ,67 | | 18,58 |
| | 7 | 67 13 3 | 1,71 | 0 41 | 18,70 | 0,13 | | 12,88 | ,18 | ,68 | | 18,38 |
| | 8 | 67 7 5 | 3,48 | 0 35 | 42,88 | 0,04 | | 10,56 | ,19 | ,69 | | 16,06 |
| 1 | 9 | 67 2 4 | 5,78 | 0 30 | 31,00 | +0,05 | | 14,83 | ,20 | ,71 | | 20,32 |
| | 10 | 66 58 | 0,04 | 0 25 | 43,39 | 0,18 | | 16,83 | ,20 | ,71 | | 22,32 |
| | 11 | 66 53 3 | 35,48 | 0 21 | 20,24 | 0,30 | | 15,54 | ,21 | ,72 | | 21,03 |

| | | | | | Correc | tion for | Mean Solsticial |
|---|--|---|--|--|---|---|--|
| 1836 | N. P. D. | Reduction. | ⊙'s Lat. | Solsticial N. P. D. |) r Nut. | ○ r Nut. + t. 0",46 365 | N. P. D. Reduced to Jan. I |
| June 12 13 15 16 17 18 19 20 28 July 2 9 10 14 15 16 17 19 20 | 68 27 13,12 68 36 55,13 68 46 53,39 69 8 2,44 | 0 17 20,82 0 13 46,15 0 7 51,77 0 5 31,20 0 3 35,42 0 2 4,43 0 0 58,40 0 0 16,83 0 9 38,20 0 24 8,50 1 4 57,63 1 12 21,32 1 45 46,15 1 55 2,56 2 4 42,26 2 14 42,40 2 35 48,40 2 46 54,97 | +0,43 ,56 ,78 ,85 ,89 ,92 ,91 ,87 -,04 ,27 +,34 ,47 ,82 ,85 ,84 ,80 ,65 | 11,41 13,71 11,79 14,69 | ,38 ,39 ,39 | 70,72 ,73 ,74 ,74 ,75 ,75 ,75 ,75 ,76 ,74 ,68 ,67 ,65 ,64 ,61 ,60 ,58 ,57 | 0 |
| 1837 May 24 25 31 June 2 31 10 11 12 13 14 15 16 17 22 23 24 25 26 27 29 30 July 8 11 12 13 14 15 16 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18 | 69 15 19,85 69 4 18,85 68 5 45,45 67 49 18,24 67 27 30,29 67 20 59,23 67 14 54,06 67 9 13,66 67 3 55,99 66 59 5,40 66 54 34,62 66 50 33,05 66 46 44,64 66 43 36,19 66 40 43,80 66 38 15,72 66 36 14,74 66 32 17,08 66 32 44,25 66 33 30,50 66 34 55,90 66 36 31,31 66 38 41,04 66 44 2,47 66 47 24,98 67 28 23,87 67 35 26,79 67 42 39,51 67 50 28,30 67 58 25,29 68 6 52,95 | 2 43 4,29 2 32 2,59 1 33 36,11 1 17 8,00 0 55 18,53 0 48 48,88 42 43,15 37 1,03 31 43,60 26 50,27 22 21,10 18 16,87 14 36,63 11 21,00 0 8 29,56 6 3,15 4 1,67 0 4,25 0 31,16 1 22,80 2 39,25 4 20,67 6 26,92 11 51,98 15 11,82 56 19,00 1 3 19,28 10 31,00 18 12,75 26 16,57 34 46,32 | -0,30 -0,29 +0,27 ,53 ,82 ,86 ,89 ,87 ,56 ,43 ,77 ,67 ,56 ,43 ,07 +0,17 +0,06 -0,05 ,22 ,16 ,07 +0,03 ,15 ,55 ,66 ,72 ,61 ,49 ,35 ,22 ,10 ,01 | 66 32 15,26 15,97 9,61 10,77 12,58 11,21 11,80 13,50 13,22 15,90 14,19 16,74 8,44 15,49 14,41 12,63 14,02 12,61 12,93 7,63 16,68 10,79 14,41 11,04 13,82 5,59 8,12 9,00 | +7,97 7,97 8,01 ,02 ,03 ,03 ,03 ,04 ,04 ,04 ,05 ,05 ,06 ,06 ,10 ,10 ,10 ,11 ,11 ,12 ,12 ,14 ,14 ,14 ,14 ,15 ,15 | —0,53 ,54 ,60 ,62 ,66 ,67 ,68 ,69 ,71 ,71 ,72 ,72 ,73 ,74 ,74 ,75 ,76 ,76 ,76 ,76 ,76 ,75 ,69 ,68 ,67 ,68 ,67 ,68 ,69 | 19,84 66 32 22,70 23,40 17,02 18,17 19,95 18,57 19,15 20,85 20,55 23,23 21,51 24,07 15,76 22,81 21,72 19,95 21,33 19,95 21,33 19,95 20,27 14,97 24,02 18,14 21,76 18,41 21,19 13,04 15,58 16,47 23,38 16,43 13,23 12,03 |

| 18 | 37 | N. P. D. | Reduction. | ⊙'s Lat. | Solsticial N. P. D. | Correc) r Nut. | tion for or Nut. t. 0",46 365 | Mean Solsticial N. P. D. Reduced to Jan. 1. |
|------|----------------------------|---|----------------------------------|-------------|---|-----------------------------------|-----------------------------------|---|
| July | 15 16 18 19 23 | 68 24 58,0 68 34 25,7 68 54 35,5 69 5 21,2 69 51 28,4 | 2 2 17,60 22 30,90 33 9,63 | ,17 | 0 / // 66 32 11,77 7,97 4,47 11,38 17,06 | +8,16 ,17 ,17 ,18 ,21 | -0,62 ,61 ,59 ,58 ,54 | 0 / // 66 32 19,31 15,53 12,05 18,98 24,73 |

Observations of the Sun made near to the Winter Solstices of 1836 and 1837 applied to the determination of the Obliquity of the Ecliptic.

| | · | | | | | <u></u> | Ti describility and | | | | 1 | | Correc | ction for | | Mea | in cial |
|------|-----|-----|------|------------|---------|---------|---------------------|--------|-----------------------|-----|----------------|---------------|-------------|-----------|------------|---------------|------------|
| l 1: | 836 | I | N. | P. | D. | Re | duci | tion. | ⊙'s | | | cial | | ⊙ r Nut. | | | D. |
| | | - 1 | | | | | | | Lat. | N. | . Р. | . D. |) r Nut. | +t.0'',46 | Red | luc | ed to |
| - | | | | | | | | | | | | | Nut. | 365 | J | an. | 1. |
| ļ | | | 0 | , | 11 | 0 | <u> </u> | 17 | " | O O | , , | " | | " | 0 | , | " |
| Jan. | | 2 | 113 | 0 | 25,15 | +0 | 27 | 14,78 | +0,07 | 113 | 27 | 40,00 | 5,08 | +0,49 | 113 | 27 | 35,41 |
| | | 3 | 112 | | 8,28 | | | 30,79 | | | | 39,25 | ,09 | ,48 | | | 33,84 |
| | | 4 | | 49 | 28,38 | | | 14,19 | | | | 42,86 | ,10 | ,47 | | | 38,23 |
| | | 6 | 112 | | 37,82 | | 41 | 1,94 | | | | 40,18 | ,11 | ,45 | | | 36,52 |
| Ì | | 7 | 112 | | 32,95 | | | | +0.44 | | | 39,84 | ,12 | ,44 | | | 35,16 |
| 1 | | 8 | 112 | 22 | 5,58 | | 5 | 37,05 | +0.44 | | | 43,07 | ,13 | ,43 | | | 38,37 |
| Ì | | 9 | 112 | 14 | 5,82 | | 13 | 33,98 | +0,40 | | | 40,20 | ,13 | ,43 | | | 35,50 |
| | | 10 | 112 | 5 | 43,26 | | 21 | 58,35 | +0,33 | | | 41,94 | ,14 | ,42 | | | 37,22 |
| | | 11 | 111 | | 52,36 | | 30 | 48,50 | | | | 41,09 | ,15 | ,41 | | | 36,25 |
| ĺ | | 13 | 111 | 37 | 58,00 | | 49 | 44,63 | 0,00 | | | 42,63 | ,16 | ,39 | | | 37,86 |
| | | 14 | 111 | | | | 59 | 50,06 | -0.12 | | | 40,41 | ,17 | | | | 35,62 |
| | | 16 | 111 | 6 | 28,03 | 2 | 21 | 16,79 | [-0,37] | | | 44,45 | ,18 | | | | 39,64 |
| | | 17 | 110 | 55 | | | 32 | 35,98 | -0,47 | | | 43,40 | ,19 | ,34 | | | 38,55 |
| | | 18 | 110 | 43 | 25,71 | 2 | 44 | 19,65 | 0,55 | | | 44,81 | ,10 | | | | 39,94 |
| l | | 19 | 110 | 31 | 16,97 | 2 | 56 | 27,53 | -0,62 | | | 42,88 | ,21 | ,31 | 1 | | 37,98 |
| | | 21 | 110 | 5 | 55,61 | | | 51,55 | [-0,65] | | | 46,51 | ,23 | ,27 | 1 | | 41,55 |
| No | v. | 22 | 110 | 10 | 48,53 | 3 | 16 | 54,52 | -0,19 | 1 | | 42,86 | -7,11 | | 1 | | 36,43 |
| | | 23 | 110 | 23 | 29,13 | 3 | 4 | 15,40 | | İ | | 44,47 | ,11 | ,70 | | | 38,06 |
| | | 26 | 110 | 59 | | 2 | | 33,48 | | | | 42,35 | ,13 | | | | 35,97 |
| | | 27 | 111 | 10 | 14,52 | 2 | | 26,00 |) + 0,30 | | | 40,82 | | | | | 34,45 |
| | | 28 | 111 | 21 | 1,82 | 2 | 6 | 42,67 | | | | 44,81 | | | | | 38,46 |
| | | 29 | 111 | 31 | 20,53 | 1 | 56 | 22,90 |) +0,33 | 1 | | 43,76 | | |) , | | 37,41 |
| De | c. | 2 | 111 | 5 9 | 47,39 | | | | | | | 41,15 | ,17 | | | | 34,82 |
| | | 4 | 112 | 16 | 43,69 | | 11 | 1,18 | | | | 44,7 9 | | ,87 | | | 38,48 |
| Į | | 5 | 112 | 24 | 29,91 | . 1 | - | | | | | 42,69 | | | 1 | | 36,39 |
| | | 6 | 1112 | 31 | 51,23 | 3 (| 55 | 51,70 | 0 -0.38 | 5 | | 42,58 | | | | | 36,28 |
| | | 7 | 112 | 38 | 3 49,79 | 9) (| 48 | | | | | 45,87 | | | Ī | | 39,58 |
| | | 11 | 113 | | 57,3 | | | 44,7 | | | | 41,32 | | | | | 35,05 |
| | | 12 | 113 | 3 (| 38,0 | - 6 | 21 | | | н | | 42,20 | | | | | 35,94 |
| 1 | | 17 | 113 | | 2 57,0 | |) 4 | 43,0 | | | | 39,66 | | | l | | 33,40 |
| | | 19 | 1113 | 3 26 | 3 16,1 | 9 | 0 1 | , . | | | | 42,52 | | | | | 36,26 |
| | | 23 | | 3 2' | | | 0 (| | | | | 44,10 | | 7,99 | | | 38,82 |
| | | 24 | | | 6 13,4 | | 0] | | | | | 44,04 | | | į | | 38,76 |
| | | 31 | 11: | 3 | 6 20,1 | 7 | 0 2] | l 20,4 | 6 0,0 | 6 | | 40,5 | 7 ,3 | 97, | l | | 34,24 |

| | | | | | | ⊙'s | Solati | -:-1 | Corre | ction for | Me: Solsti | |
|--|----|--------|---------|------|--------|-----------------|-----------------|----------------|-------------|---|---------------|----------------|
| 183 | 7 | | P. D. | Redu | ction. | Lat. | Solsti N. P. | |) r Nut. | \bigcirc r Nut. + $\frac{t. \ 0'', 46}{365}$ | N.P. | D. ed to |
| _ | | 0 / | " | 0 ' | " | 11 | 0 / | " | " | 111111111111111111111111111111111111111 | 0 / | " |
| Jan. | 3 | 112 50 | | 1 | 49,08 | -0,43 | 113 27 | 43,99 | -7,32 | +0,49 | 113 27 | 37,16 |
| i sa sa sa sa sa sa sa sa sa sa sa sa sa | 5 | 112 3 | • | | | ,65 | | 43,55 | ,33 | ,46 | | 36,68 |
| | 6 | 112 3 | • | | - | ,73 | | 45,46 | ,34 | ,45 | | 38,57 |
| | 7 | 112 2 | | | , | ,79 | | 48,07 | ,34 | ,44 | | 41,17 |
| | 8 | 112 10 | | | | ,82 | | 47,34 | ,35 | ,43 | ļ | 40,42 |
| | 9 | | 7 45,93 | | | ,81 | | 42,72 | ,36 | ,43 | | 35,79 |
| | 11 | 111 5 | , | | , , | | | 44,95 | ,37 | ,42 | | 38,00 |
| | 12 | 111 4 | - 1 | | | | | 45,87 | ,38 | ,41 | | 38,90 |
| | 19 | 110 2 | | | | -0,63 | | 45,42 | ,38 | ,40 | | 38,44 |
| 4 • • | 20 | 110 | | | | | | 49,79 | ,40 | ,31 | | 42,70 |
| Dec. | 19 | 113 2 | | | 44,67 | +0,29 -0,04 | | 47,19 | ,41 | ,30 | | 40,08 |
| | 20 | 113 2 | | | | ,16 | | 44,20 | -8,65 | +0,99 | | 36,54 |
| | 21 | 113 2 | | | 7,33 | ,30 | | 46,47 | ,65 | ,99 | | 38,81 |
| | 24 | 113 2 | - , | | 13,77 | ,68 | | 42,46 | ,66 | ,99 | - | 34,79 |
| | 26 | 2 | | | | ,85 | | 45,96 45,37 | ,68 | ,99 | | 38,27 |
| | 27 | 2 | , | | 34,94 | ,90 | | 43,38 | ,69 | ,98 | | 37,66 |
| | 29 | 1. | | | 30,70 | ,92 | | 45,17 | ,69 ,71 | ,98 ,98 | | 35,67 37,44 |

Taking the means, which it will be observed are the mean values for the commencement of the respective years, and employing the annual variation, (-0'',46) we have determined altogether as follows—

| | | Mean Su | n Ol | bliquity er Obs. | January Wii | l, nter | 183 Ob | 5. s. |
|-------------|--------------|------------|------|---------------------|----------------|------------|-----------|----------|
| - | No. obs. | 0 | 1 | 11 | No. obs. | 0 | 1 | 11 |
| In the year | 1831 from 33 | 23 | 27 | 38,57 | | | 27 | 37,14 |
| | 1832 —— 33 | | | 42,21 | 40 | | | 37,82 |
| | 1833 —— 33 | | , | 40,37 | 47 | | | 38,15 |
| | 1834 —— 28 | | | 41,67 | 22 | | | 37,00 |
| | 1835 —— 32 | | | 40,58 | 30 | | | 36,56 |
| | 1836 —— 34 | | | 40,96 | 34 | | | 37,41 |
| - | 1837 —— 37 | | | 41,70 | 18 | | | 39,09 |
| M | ean = | 23 | 27 | 40,87 | | 23 | 27 | 37,57 |
| ** | | | | | **** | | | |

Whence, The Mean Obliquity Jan. 1st 1835 = 23° 27′ 39″,22

Observations of the Sun made near to the Vernal Equinoxes of 1836 and 1837 applied to the determination of the error of the assumed Equinoctial Point.

| 183 | 36 | Observed N. P. D. | Cor. | N. P. D. corrected for O's Latitude. | Computed A. R. | Observed A. R. | Error of Eq. Point. | REMARKS. |
|------|----------|------------------------------|----------|--------------------------------------|--|----------------------|--|----------|
| Feb. | | 103 58 37,19 | | 103 58 37,01 | $\begin{array}{ c c c c c c } \hline h & m. & s. \\ \hline 21 & 40 & 1.85 \\ \hline 42 & 50.25 \\ \hline \end{array}$ | m s. " 40 1,54 | | |
| * | | 103 38 41,35 | | 103 38 41,07 | 43 58,25 | 43 57,52 | -0,73 | |
| | | 103 18 37,35 102 58 14,93 | | 103 18 36,99 102 58 14,51 | 47 52,83 51 47,71 | 47 52,40 51 47,18 | -0,43 -0,53 | |
| | | 102 36 14,93 | | 102 36 14,51 | 55 41,53 | 55 41,20 | $\begin{bmatrix} -0.33 \\ -0.33 \end{bmatrix}$ | |
| | | 102 37 42,33 | 0.45 | | 59 34,10 | 59 34,09 | -0.01 | |
| | | 101 56 0,78 | | 101 56 0,34 | 22 3 26.65 | 3 26,24 | -0.41 | |
| | 19 | 101 34 55,24 | | 101 34 54,85 | | 7 17 63 | -0.13 | |
| | 20 | 101 13 37.89 | 0,31 | | 11 8,35 | 11 8,67 | +0.32 | |
| | 21 | 100 52 5.56 | _0,21 | 100 52 5,35 | A Company of the Comp | 14 58,47 | -0,61 | |
| | 24 | 99 46 39,58 | +0,16 | | | 26 25,28 | -0,30 | |
| | 25 | 99 24 34,42 | 0 27 | | | 30 12,42 | -0,43 | |
| | 26 | 99 2 16,49 | 0,39 | 99 2 16,88 | 34 0,28 | 33 59,81 | -0.47 | |
| | 27 | 98 39 58,42 | 0,50 | | | 37 46,16 | +0,36 | |
| | 28 | 98 17 25.31 | 0,57 | | 41 32,00 | 41 32,06 | +0,06 | |
| | 29 | 97 54 48,64 | 0,63 | | | 45 17,22 | +0.16 | |
| Mar. | | 97 32 3,40 | 0,65 | | | 49 2,15 | +0.27 | |
| | 2 | 97 9 12,18 | 0,66 | | | 52 46,02 | -0.09 | 1.00 |
| | 3 | 96 46 16,18 | 0,64 | | | 56 29,69 | +0.04 | |
| | 4 | 96 23 10,62 | | | | | -0.35 | |
| | 5 | 99 0 5,74 | | | | | | |
| | 6 | 95 36 55,59 95 13 40,00 | | | | | + 0,89 | |
| | 8 | 94 50 15,41 | 0,18 | 94 50 15,59 | | | +0,58 | |
| | 9 | 94 26 52,79 | | | | 18 42,62 | +0,51 | |
| | 10 | 94 3 21,03 | | | | 22 23,56 | +0,11 | |
| | îĭ | 93 39 49,34 | | | | 26 3,86 | -0.03 | |
| | 12 | 93 16 12,32 | | • | | 29 44.36 | -0,23 | |
| | 13 | 92 52 38,95 | | | | 33 24.33 | +0.33 | |
| | 14 | 92 28 57,96 | 0,33 | 92 28 57,63 | 37 4,03 | | +0,53 | |
| | 16 | 91 41 35,63 | 0,33 | 91 41 35,30 | 44 22,58 | 44 22,73 | +0,15 | |
| | 17 | 91 17 53,09 | | | | | -0.15 | |
| | 18 | 90 54 12,09 | | | | 51 40,74 | | |
| | 19 | 90 30 31,33 | | | | 55 19,27 | | |
| | 20 | 90 6 46,88 | | | | | -0.39 | |
| | 22 | 89 19 26,96 | | | | | | |
| | 23 | 88 55 45,58 | | | | | | |
| | 24 | | | | | | | |
| | 25 26 | | | | | | | |
| | 20 28 | | | | | | +0.51 | |
| | 29 | | · · | | | | | |
| | 30 | 1 | | | | | | |
| | 31 | | | | • | | | |
| Apr | | | | | | 42 34,32 | +0,39 | |
| r` | 2 | | 1 | | 46 12,50 | 46 12,53 | | |
| | 3 | B C | • | | 49 50.08 | 49 50,93 | +0.85 | |
| | 5 | | 9 ' | |) 57 8,48 | | | |
| | 6 | 83 30 30,89 | 2 +0.0' | 7 83 30 30,89 | | | | |
| | 7 | 83 7 57,5 | 0 - 0.04 | 4 83 7 57,46 | 6 4 26,38 | 4 25,77 | 1 - 0,61 | |

| | | | | | The state of the s | THE CONTRACTOR OF THE PARTY OF | | |
|-------------|---|------------------------------|-----------------|---|--|---|--|-------------|
| 183 | 36 | Observed N. P. D. | Cor, | N. P. D. corrected for \odot 's Latitude. | Computed A. R. | Observed A. R. | Error of Eq. Point. | REMARKS. |
| April | | 82 45 27,54 | 0,13 | 82 45 27,41 | h. m. s. 1 8 6,03 | m. s. " 8 5,59 | _0,44 | |
| | 9 10 | 82 23 8,94 82 0 55,77 | 0,19 0,24 | 82 23 8,75 82 0 55,53 | 11 45,27 15 25,13 | 11 45,03 15 24,87 | -0,24 -0,26 | · |
| | $\frac{11}{12}$ | 81 38 51,77 81 16 55,56 | 0,26 | 81 38 51,51 81 16 55,31 | 19 5,07 22 45,40 | 19 5,31 22 45,55 | +0,24 +0,15 | |
| | 13 | 80 55 9,64 | 0,21 | 80 55 9,43 | 26 26,41 | 26 26,35 | -0.06 | |
| | 15 16 | 80 12 2,37 79 50 41,31 | -0,06 +0,04 | 80 12 2,31 79 50 41,35 | 33 47,83 37 29,73 | 33 49,10 37 30,48 | +*1,27 + 0,75 | obsd. by V. |
| | 17 | 79 29 27,63 | 0,17 | 79 29 27,80 | 41 12,47 | 41 13,38 | +0,91 | —— В. |
| | 18 19 | 79 8 24,31 78 47 32,44 | 0,28 | | 44 55,60 48 39,00 | 44 55,39 48 38,52 | -0,21 -0,48 | |
| 18: Feb. | | 103 23 19,59 | | 103 23 19,65 | 21 46 58,27 | 46 57,52 | | |
| 1 60. | 14 | 103 3 1,25 | 0,17 | 103 3 1,42 | 50 53,07 | 50 52,04 | $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | |
| | 15 · 16 | 102 42 33,40 102 21 56,40 | | 102 42 33,67 102 21 56,74 | 54 46,58 58 38,66 | 54 45,65 58 39,21 | -0,93 +0,55 | |
| Non-trady | 17 | 102 1 2,63 | 0,39 | 102 1 3,02 | 22 2 31,12 | 2 31,89 | +0,77 | |
| | 18 19 | 101 39 58,03 101 18 43,42 | 0,40 | | 6 22,74 10 13,45 | 6 23,08 | +0,34 +0,09 | |
| | 20 21 | 100 57 14,04 100 35 41,40 | | 100 57 14,42 100 35 41,72 | 14 4,12 17 53,19 | 14 3,94 17 53,19 | -0,18 0,00 | |
| | 26 | 98 45 19,56 | -0,20 | 98 45 19,36 | 36 52,06 | 36 51,43 | -0,63 | |
| | 27 28 | 98 22 50,37 98 0 15,85 | | | 36 38,07 44 23,20 | 40 37,34 44 22,94 | -0.73 -0.26 | |
| Mar | | 97 37 33,63 | 0,50 | 97 37 33,13 | 48 7,92 52 52,19 | 48 7,99 | +0,07 | |
| 1 | 3 | 96 51 51,38 | 0,59 | 96 51 50,79 | 55 35,60 | 52 52,19 55 36,17 | 0,00 +0,57 | |
| | 4 5 | | | | 59 19,33 | 59 19,70 3 2,83 | +0,37 +0,43 | |
| | 6 | 95 42 26,66 | 0,51 | 95 42 26,15 | 6 45,06 | 6 45,61 | 十0,55 | |
| | 7 8 | 95 19 11,27 94 55 52,63 | 0,45 | | 10 26,93 14 8,20 | 10 27,32 14 9,22 | +0,39 +1,02 | |
| | 9 10 | 94 32 23,38 94 8 55,18 | 0,24 0,12 | | 17 50,26 21 31,20 | 17 50,52 21 31,50 | +0,26 | 4 |
| | 11 | 93 45 20,21 | +0,01 | 93 45 20,22 | 25 12,39 | 25 12,64 | +0,30 +0,25 | |
| | $\begin{array}{c} 12 \\ 13 \end{array}$ | | | | 25 53,18 32 32,62 | 28 52,29 32 32,85 | -0.89 +0.23 | |
| | 17 23 | 91 23 29,01 | 0,51 | 91 23 29,52 | 47 10,01 | 47 9,35 | -0,66 | |
| | 24 | 88 37 47,97 | 0,05 | 88 37 48,02 | 12 38,05 | 8 59,74 | -0,37 -0,28 | |
| | $\frac{25}{27}$ | 88 14 12,12 87 27 13,12 | | | 14 16,14 23 31,51 | 14 15,17 23 31,73 | $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | |
| | 28 | 87 3 45,31 | 0,38 | 87 3 44,93 | 27 9,51 | 27 8,95 | 0,56 | |
| | 29 30 | 86 40 21,81 86 17 4,74 | | | 30 47,47 34 25,14 | 30 46,71 34 25,55 | $\begin{vmatrix} -0.76 \\ +0.41 \end{vmatrix}$ | |
| Apri | 31 1 1 | 85 53 47,78 85 30 33,72 | | 85 53 47,29 | 38 3,35 41 42,01 | 38 3,24 41 41,90 | -0,11 | |
| 122 | 2 | 85 7 33,40 | 0,42 | 85 7 32,98 | 45 19,34 | 45 19,99 | $\begin{vmatrix} -0,11 \\ +0,65 \end{vmatrix}$ | |
| M NOW | 3 7 | 84 44 34,53 83 13 21,02 | | | 48 57,38 1 3 33,87 | 48 58,45 3 33,78 | +1,07 -0,09 | |
| | 8 | 82 50 49,49 | 0,22 | 82 50 49,71 | 7 13,38 | 7 13,40 | +0.02 | |
| 1 | J | 82 28 26,31 | 0,34 | 82 28 26,64 | 10 52,99 | 10 52,96 | 0,03 | |

^{*} Omitted in taking the Mean.

| 1837 | Observed N. P. D. | Cor. | N. P. D. corrected for \odot 's Latitude. | Computed A. R. | Observed A. R. | Error of Eq. Point. | Kemarks. |
|--|--|------------------------------|---|----------------------|--|---|----------|
| April 11 12 13 14 15 17 18 | 81 22 6,05 81 0 17,62 80 38 38,25 80 17 4,54 79 34 33,32 | 0,62 0,63 0,61 0,50 | 80 17 5,15 79 34 33,82 | 25 33,35 29 15,97 | m. s. " 18 12,83 21 52,92 25 33,83 29 15,06 32 55,94 40 19,31 44 2,02 | $ \begin{vmatrix} +0.25 \\ -0.09 \\ +0.48 \\ -0.91 \\ +0.35 \\ +0.70 \\ -0.05 \end{vmatrix} $ | |

Observations of the Sun made near to the Autumnal Equinoxes of 1836 and 1837 applied to the determination of the error of the Equinoctial Point.

| 1836 | Observed N. P. D. | Cor. | N. P. D. corrected for \odot 's Latitude. | Computed A. R. | Observed A. R. | Error of Eq. Point. | REMARKS. |
|--|---|--|---|--|--|---|----------|
| Sep. 9 11 12 16 20 21 22 25 26 29 Oct. 4 6 8 9 10 11 12 13 14 18 19 20 21 22 25 1837 Sep. 9 12 13 14 16 16 | 97 48 36,53 98 10 59,48 99 39 33,70 100 1 19,10 100 23 0,87 100 44 25,38 101 5 44,16 102 8 38,39 84 36 11,18 85 44 40,46 86 7 32,11 86 30 36,22 86 53 37,86 87 16 48,83 | 0,40 0,31 -0,18 -0,53 0,56 0,57 0,41 0,32 +0,04 0,43 0,31 0,22 0,11 -0,01 0,14 0,27 0,66 0,65 0,66 0,65 0,60 0,52 0,60 0,60 0,60 0,24 0,16 0,06 0, | 89 42 24,08 90 52 32,13 91 16 2,05 92 26 12,24 94 22 40,82 95 9 1,17 95 55 2,99 96 17 54,67 96 40 45,14 97 3 23,17 97 26 2,48 97 48 36,26 98 10 59,10 99 39 33,04 100 23 0,22 100 44 24,78 101 5 43,64 102 8 38,18 84 36 10,89 85 44 40,17 86 30 36,06 86 53 37,80 86 53 37,80 87 16 48,88 | 17 46,81 21 22,82 35 45,01 50 6,27 53 41,93 57 17,81 12 8 4,39 11 41,13 22 30,37 40 38,39 47 56,48 55 15,79 58 55,67 13 2 36,62 6 16,89 9 58,79 13 41,29 17 23,59 32 20,94 36 6,31 39 53,11 43 39,20 47 26,63 58 52,98 11 9 42,80 20 30,93 24 5,57 27 41,45 31 16,29 34 51,99 | 47 56.08 55 15,20 58 55,83 2 36,57 6 17,78 9 59,67 13 41,89 17 23,97 32 20,80 36 6,33 39 52,70 43 39,34 47 27,01 58 53,74 9 43,18 20 30,11 24 5,72 27 41,20 31 16,69 34 51,78 | -0,79 -0,02 -0,54 -0,31 +0,15 +0,10 -0,37 +0,20 -0,14 +0,38 +0,01 -0,40 -0,59 +0,89 +0,88 +0,60 +0,89 +0,88 +0,60 +0,38 +0,14 +0,14 +0,38 +0,76 +0,38 +0,76 +0,38 +0,76 +0,38 +0,76 +0,38 +0,14 +1,04 | |
| 17 19 19 20 | 88 3 11,53 88 26 31,04 | 0.24 | 88 3 11,81 88 26 31,43 | 42 2,07 45 37,78 | 42 2,70 45 37,76 | $\begin{vmatrix} +0.63 \\ -0.02 \\ +0.16 \end{vmatrix}$ | |

| 1837 | Observed N. P. D. | Cor. | N. P. D. corrected for \odot 's Latitude. | Computed A. R. | Observed A. R. | Error. of Eq. Point | Remarks. |
|--|---|---|---|----------------|--|--|----------|
| Sep. 21 22 23 24 25 26 27 28 Oct. 10 12 13 14 16 | 97 20 41,73 97 43 5,97 98 5 34,99 | 0,66 0,66 0,64 0,59 0,51 0,42 -0,39 0,22 0,11 0,00 | 90 23 30,65 90 46 52 24 91 10 18,35 91 33 41,95 91 57 11,91 96 35 17.78 97 20 41.51 97 43 5,86 98 5 34.99 | 16 29 71 | 7 12,)8 10 48.25 14 24.73 18 1,04 1 43,52 9 6,76 12 47,81 16 30,42 | $\begin{array}{c} "\\ -0.52\\ -0.72\\ -0.67\\ -1.03\\ +0.06\\ +0.01\\ +0.45\\ -1.05\\ -0.15\\ +0.57\\ +1.05\\ +0.71\\ +0.97\\ \end{array}$ | |

Taking the means and refering to former Vols. we have determined altogether as follows—

| ERROR OF THE ASSUMED In Observations in Springer | Ang. Observations in Autumn. |
|--|---|
| from 19 observations in 1831 + 0,06 | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ |

In Vol. III, I had proposed to reject the result derived from the Spring Observations of 1835; but the results from the Autumnal Observations of 1836 and 1837, when compared with former results, exhibiting a similarly large discordance, it would appear preferable to retain it; accordingly we have

*Error of the assumed Equinoctial Point.

.. MEAN ERROR OF THE ASSUMED EQUINOCTIAL POINT + 0,144

The results here obtained from the Observations at the Vernal and Autumnal Equinoxes, as well as those arrived at for the Obliquity, at page 68, exhibit a discordance, such as would be explained by attributing an error to the assumed place of the pole (the Latitude in fact); to understand this matter clearly, it is necessary to recollect, that every measure of North Polar Distance which is contained in this and the previous volumes of the Madras Results, has been derived from the Greenwich Catalogue of 720 Stars for 1825; which catalogue reckoned the N. P. D. from a point (supposed to be the pole) situated at an altitude of 51° 28′ 38″,5 above the north horizon of the Greenwich Royal Ob-

servatory; hence, the error (if any) of this assumption, necessarily affects by its whole amount, the N. P. D. of every Star of the above catalogue, and consequently each and every measure of N. P. D. which has been made at Madras: thus, to render the Solsticial Observations at Madras accordant, we must diminish the Latitude of Greenwich 1",65; and to reconcile the Observations at the Equinoxes, we must diminish the Latitude 0",66,—rendering it exceedingly probable, that the Latitude of Greenwich as above stated, must be diminished by about one second.*

OBSERVATION OF SPOTS UPON THE SUN'S DISC.

The following observations of the various spots which have from time to time passed over the Sun's disc—have been made at the time of Transit with the Meridianal Instruments, so as not to prevent the ordinary observation of the Limb; at the Transit, one or two wires have mostly been taken; and at the Mural Circle, only two Microscopes could be read off; they are however on the whole, I apprehend—little inferior to the other observations.

Apparent Right Ascension and Declination of Spots observed upon the Sun's Disc, together with their Geocentric and Heliocentric Places.

| Mad | lras | М. | T. | Ap | pare | nt A | A. R. | Apr D | arei ecn. | | Lon | | eocent | tric Latit | ude. | Long | | | entric Lati | | e. |
|------|------|----|------|-------|------|------|-------|----------|--------------|------|-----|----|--------|---------------|------|------|----|----|------------------|-----|----|
| 1835 | D. | h. | m. | 1 | h. | m. | s. | 0 | , | " | 0 | 1 | 11 | / | 11 | 0 | 1 | 11 | 0 | 1 1 | • |
| Dec. | | | | (1) | 18 | 8 | 8,25 | -23 | 22 | 8,5 | 271 | 52 | 3,2 | +4 | 46,6 | | | 31 | | 5 | 13 |
| | 25 | | 0,0 | | | | 19,41 | 23 | 20 | 32.8 | 272 | 49 | 42,6 | +5 | 21,1 | 90 | 41 | 25 | 18 | 55 | 3 |
| | 26 | 0 | 0,5 | (1) | | 16 | 29,93 | 23 | 18 | 39,0 | 273 | 47 | 15,0 | +5 | 49,2 | 105 | 28 | 40 | | | |
| | 27 | 0 | 1,0 | | | 20 | 41,78 | 23 | 16 | 18,5 | 274 | 45 | 7,7 | +6 | 16,7 | 119 | 27 | 38 | 22 | 45 | 25 |
| | 29 | 0 | 2,0 | | | 29 | 10,78 | 23 | 10 | 50,9 | 276 | 42 | 11,3 | 1+6 | 40,8 | 149 | 16 | 33 | 24 | 18 | 17 |
| | 30 | 0 | 2,5 | | | | 28,37 | 23 | 7 | 34,2 | 277 | 41 | 29,3 | +6 | 44,3 | 163 | 52 | 17 | 24 | 32 | 11 |
| 1830 | - | | | 1`′ | | | • | 1 | | • | | | | | | 1.00 | | | Ì | | |
| Jan. | 4 | 0 | 4,9 | i | 18 | 55 | 39,23 | 22 | 41 | 52,0 | 282 | 49 | 1,5 | 8 | 48,0 | 157 | 8 | 8 | 25 | 37 | 28 |
| | 8 | 0 | | | | | 31,72 | 22 | 28 | 43,1 | 287 | 1 | | 1-6 | 6,9 | 142 | 22 | 0 | 22 | 8 | 45 |
| | 20 | | 11,1 | 1 \ ' | 20 | | 12,24 | | | 20,5 | 299 | 10 | | 1+7 | 20,6 | 175 | 23 | 23 | +26 | 56 | 18 |
| | 21 | | 11.4 | 1 | | | 16,36 | 1 | | 14,7 | • | | 24,2 | +8 | 7,2 | 170 | 58 | 33 | +30 | 5 | 10 |
| | 23 | | 12,0 | | , , | 18 | | 1 | | | | | | 1+6 | 14,3 | 140 | 3 | 54 | +22 | 38 | 37 |

^{*} In Vol. II. page 84, I had arrived at very nearly the same result,—a result which has lately been completely verified by the observations at Greenwich.

| Mac | lras | м. т. | An | pare | nt / | A. R. | App | | | | Ge | ocent | ric | | | He | lioc | entric | | |
|--------|-------------|---------|------|------------------|------|-------|------------|------|-------|-----|------|-------|-------------|--------------|------|------|-------------|------------|-----------|-----|
| 1.20 | *** | | | Purc | | | ע | ecn. | | Lon | gitu | de. | Latit | ude. | Long | gitu | de. | | | |
| 1836 | T) - | h. m. | | \overline{h} . | m. | s. | 0 | 7 | " | 0 | - | " | 7 | " | 0 | 1 1 | , | 0. | 1 19 | _ |
| Jan. | | 0 12,7 | (1) | | | 10,22 | 18 | 52 | 56,0 | 305 | 12 | 32,2 | +6 | 17,2 | 184 | 17 | 34 | +22 | 51 | 18] |
| | 31 | 0 13,7 | (2) | | | 57,69 | | | 49,4 | 310 | | | | 54,0 | 125 | | | | - | 10 |
| Feb. | 1 | 0 13,8 | (2) | | | 49,54 | | | 47,5 | | | 32,2 | | 35,3 | | 56 | | -12 | | 41 |
| | 2 | 0 13,9 | (2) | | | 40,58 | 17 | 8 | 48,3 | | | 57,2 | 3 | 36,5 | | | 56 | <u>12</u> | | 58 |
| i | $\tilde{3}$ | 0 14,0 | (2) | 21 | | 32,39 | | | 33,5 | | | 42,6 | | 47,5 | 168 | | 17 | 13 | | 94 |
| | 4 | 0 14,2 | (2) | | | 24,72 | | | 53,6 | | | 46,2 | 3 | 48,5 | 182 | 6 | 38 | 13 | | 58 |
| | 5 | 0 14,3 | (2) | | | 19,86 | 16 | | 54,9 | | | 39,0 | | 5,1 | 195 | | 59 | 14 | 37 | 37 |
| 1 | 8 | 0 14,5 | (5) | | | 19,76 | 15 | | 44,2 | | | 44,5 | | 39,2 | | | 0 | | | 49 |
| ĺ | 9 | 0 14,5 | (5) | | 27 | 17,16 | 15 | | 48,9 | 319 | | 2,3 | • | 28,0 | 223 | 1 | 41 | 19 | 47 | 2 |
| | 15 | 0 14,5 | (0) | | | 29,27 | 13 | | 51,8 | | | 38,0 | 1 | 53,7 | 165 | 2 | 42 | _ 6 | 44 | 15 |
| 1 | 16 | 014,3 | (3) | | | 57,15 | | | 33,2 | 326 | | 56,5 | • | 56,1 | 137 | | 9 | _17 | 48 | 18 |
| | 17 | | (3) | | | 36,70 | 12 | | 48.2 | | 41 | 2,8 | | 45,1 | 151 | | | 17 | 7 | 44 |
| | | 014,4 | | 99 | | 16,50 | 12 | | 59,5 | 328 | | 17,4 | 4 | | 2 | | | | 9 | 25 |
| | 18 | 0 14,3 | | 22 | | | | 42 | 3,1 | | | | 5 | 25,0 | 179 | | | | | 52 |
| 1 | 19 | 0 14,2 | (3) | | | 56,16 | 11 | | 51,7 | | | 23,7 | 5 | | 192 | | | | | 26 |
| Ì | 20 | 0 14,1 | [(3) | | | 37,05 | | | | | | 22,0 | | | | | | | | 59 |
| | 24 | 0 13,6 | (2) | | | 15,96 | 9 | | | | | 50,7 | 4 | | | | | 1-14 | | |
| | 26 | 0 13,3 | | | | 28,53 | 9 | 3 | 3,8 | | | 54,1 | 3 | | | | | -11 | | 51 |
| 1 | 27 | 0 13,2 | | | 38 | 2,19 | 8 | 41 | | | | 51,9 | 1 | | | | | | | |
| 1 | 29 | 0 12,8 | | | | 40,84 | 7 | | 10,5 | | | 42,5 | 4 | | | | | -15 | | 30 |
| Mar. | | 0.12,6 | | | | 13,23 | 7 | | 29,9 | | | | | | | | | | | 14 |
| | 3 | 0 12,2 | | | | 16,06 | 6 | | 19,0 | | | 2,4 | | 17,1 | 183 | | | | | 16 |
| | 7 | 011,2 | | | | 53,40 | • | 19 | 2,0 | | 9 2 | 12,7 | | | | | | 8 | | 45 |
| 1 | 8 | 011,0 | |) | | 24,77 | 4 | | 13,3 | 1 | | 10,8 | 2 | | | | | <u> 10</u> | | 21 |
| 1 | 10 | 010,5 | | | | 34,14 | 4 | | 2,7 | | | 53,8 | +0 | | | | | +1 | 49 | 8 |
| | 31 | 0 4,3 | (6) |) | 39 | 38,70 | 4 | 14 | - | 10 | | 11,2 | 2 | | | | 47 | | 22 | 50 |
| Apri | 1 1 | 0 3,9 | (6) |) | 43 | 5,09 | 4 | 36 | 8,8 | 11 | 42 | 9,3 | —l | 55, 9 | | 14 | | | | 12 |
| 1 | 2 | 0 3,6 | (6) |) | 46 | 31,01 | 4 | - 56 | 46,8 | 12 | 37 | 48,8 | -2 | 3,7 | 177 | 12 | 57 | 7 | 23 | 40 |
| | 3 | 0 3,3 | (6) |) '- | 49 | 54,35 | 5 | 19 | 14,7 | 13 | 32 | 49,2 | -1 | 59,3 | 193 | 14 | 40 | - 7 | 11 | 11 |
| 1 | 4 | 0 3,0 | | | 53 | 42,99 | 5 | 40 | 30,7 | 14 | 33 | 31,0 | -4 | 28,2 | 188 | 24 | 50 | -16 | 17 | 49 |
| | 5 | 0 2,7 | | | 57 | 14,08 | 6 | | 38,0 | 15 | 30 | 5,7 | -5 | 17,0 | 193 | 41 | 55 | -19 | 22 | 0 |
| | .7 | 0 2,2 | | 1 | - 3 | 55,17 | 6 | 55 | 46,1 | | 22 | | | 24,4 | 219 | 52 | 56 | +23 | 43 | 32 |
| i E | 8 | 0 1,9 | | | 7 | | 7 | | 35,0 | | | 24,2 | +4 | 23,2 | 256 | | | | 0 | 6 |
| | 9 | 0 1,6 | | | 10 | 54,29 | 7 | 27 | 24,8 | | | 3,2 | -3 | 56,7 | 279 | 50 | 57 | _14 | 21 | 35 |
| 1 | 14 | | | | | 51,91 | 9 | 26 | 35,2 | | 20 | | 1+0 | | | | | + 0 | | 79 |
| 1 | 15 | | | | | 22,89 | | | 40,0 | | | 23,4 | 1+6 | 49,0 | | | | +25 | | |
| 1 | | 23 58,7 | | 2 | | 1,36 | | | 13,2 | | | 26,3 | | | | | | | | |
| | | 23 56,9 | | | | 50,58 | | | 56,9 | | 52 | 35,8 | | 22,1 | | | | | | |
| May | | 23 56,8 | | | | 25,94 | | 27 | | | 49 | | 1+3 | 31,7 | | | | +12 | | |
| | | 23 51,3 | | | | | <u> </u> 1 | | | | | 43.5 | | | | | | +12 | | |
| T. | | 23 50,7 | | | | 27,35 | | | 39,0 | | | | | 56,7 | | | | +10 | | |
| 1 | | 23 50,3 | | | | 28 06 | | | 36,3 | | | 50,1 | | 4,7 | | | | +11 | | 57 |
| | | 23 50,0 | | | | 53,17 | | | 13,5 | | l | | | 53,7 | | | | +10 | | |
| Oct | | 23 46,5 | | | | | | 21 | | 199 | 6 | | | 36,2 | | | | +20 | | |
| 1 | | 23 46,1 | | , | | 44,67 | | 4 | | | | | | | | | | 1+3 | | |
| 1 | | | . , | | | , | | | ~ , ' | | | | | ~ 0, 3 | | | | . , | | |

The numbers (1), (2), &c. are supplied—to shew when the same spot has been re-observed: If we compare the cases in which the same spot has been re-observed after a complete revolution, we determine approximately.

| from No. 1, that th | e Sun rotates on | his axis at the | rate of 140 2 | in 24 hours. |
|---------------------|------------------|-----------------|--|--------------|
| 2, | | | 14 (| } |
| 6, | | | and the second of the second o | |

The observation on the 30th April, shews that the position of the spot had shifted 6 or 7 degrees (apparently 1' 50"), or that another spot had sprung up in its neighbourhood; and the observation of No. 1 on the 29th December and 23rd January, shews a variation of 2 degrees in the Heliocentric Latitude:* the observation of No. 9, which—embracing 7 revolutions, should be a good one,—seems to confirm 1 and 2 in giving a rate of rotation of 14° 4' a day; or it would appear, that the Sun makes one complete sidereal revolution on his axis in 25 days 14 hours. With regard to the position of the Solar Axis, the above observations are sufficient only to furnish a rude approximation: it would appear that the inclination of the Solar Axis to the Pole of the Ecliptic is between 6 and 7 degrees; and that the Heliocentric Longitude of the intersection of the Solar Equator with the Plane of the Ecliptic is about 95°.

Observed Right Ascension and North Polar Distance of Mercury, compared with the places interpolated from the Nautical Almanac.

| | | | - | | | | | | |
|--|----|------------------------|------------------|------------|-------------|---------------|------------------|-------------|----------|
| 183 | 86 | Madras Mean Time of | from | A. R. from | Error of | N. P. D. from | N. P. D. from | Error of | Remarks. |
| | | Observation. | Observation. | N. A. | N. A. | Observation. | N. A. | N. A. | |
| | | h. m. s. | h. m. s. | " | <u> </u> | 0 / " | 0 // | // | |
| Jan. | 16 | 0 38 20,1 | 20 17 25,55 | 24,95 | -0,60 | | - | | |
| | 19 | 0 47 45,8 | 20 38 42,64 | 42,34 | -0.30 | 110 33 15,93 | 33 8,44 | -7,49 | |
| | 21 | 53 52,8 | 20 52 43,47 | 43,11 | 0,36 | 109 33 26,60 | 33 17,43 | 9,17 | faint |
| | 22 | 56 51,2 | 59 38,76 | 38,92 | +0,16 | 109 0 58,46 | 1 3,30 | +4,84 | |
| | 23 | 59 46,1 | 21 6 30,87 | 30,92 | +0,05 | 108 27 22,78 | 27 23,91 | +1,13 | |
| | 26 | 1 8 0,9 | 26 36,64 | 36,68 | +0.04 | 106 38 29,92 | 38 29,62 | 0,30 | |
| | 27 | 10 33,1 | 21 33 6,08 | 5,68 | -0,40 | 105 59 53,09 | 59 50,46 | -2,63 | |
| | 29 | 15 12,3 | 4 5 37,90 | 37,54 | 0,36 | 104 39 48,95 | 39 48,64 | -0,31 | |
| Feb. | 2 | 22 2,0 | 22 8 15,89 | 15,45 | -0,44 | 101 53 47,26 | 53 46,75 | 0,51 | |
| | 3 | 23 3,4 | 13 14,11 | 13,80 | -0,31 | 101 12 34,70 | 12 31,82 | -2,88 | |
| | 4 | 23 44,1 | 17 51,54 | 51,41 | -0,13 | 100 32 3,79 | 32 0,13 | 3,66 | |
| | 5 | 24 2,1 | 22 6,29 | 5,77 | -0,52 | 99 52 41,58 | 52 33,93 | -7,65 | |
| | 6 | 23 54,0 | 25 54,92 | 54,59 | -0,33 | 99 14 39,06 | 14 38,77 | -0,29 | |
| | 8 | 22 12,1 | 32 5,70 | 5,23 | -0,47 | 98 4 53,09 | 4 54,61 | +1,52 | |
| | 9 | 20 33,2 | 34 23,30 | 22,46 | -0,84 | 97 33 59,29 | 33 59,28 | 0,01 | |
| | 10 | 18 18,9 | 36 5,58 | 4,97 | -0.61 | 97 6 16,34 | 6 16,00 | -0,34 | |
| April | | 23 0 51,3 | 0 30 33,76 | 33,83 | +0,07 | 89 10 43,41 | 10 51,63 | +8,22 | |
| _ | 14 | 23 3 20,0 | 0 36 59,40 | 59,05 | -0,35 | | | | |
| | 18 | 14 14,9 | 1 3 42,17 | 41,89 | -0.28 | 85 14 16,18 | 14 22,09 | +5,91 | 7 |
| | 22 | 26 52,9 | 32 8,57 | 8,65 | +0,08 | 81 52 3,19 | 52 4,70 | +1,51 | |
| | 24 | 34 4,8 | 47 4,50 | 4,65 | +0,15 | 80 8 17,06 | 8 13,18 | -3,88 | |
| | 25 | 37 36,2 | 54 43,84 | 43,83 | -0,01 | - | | | |
| May | 31 | 1 38 53,7 | 6 14 20,44 | 20,31 | -0,13 | 64 53 2,75 | 53 1,61 | -1,14 | |
| Marie Contract of the Contract | | | ~~~~ | | | | | | |

^{*} In case these spots are not situated upon the illuminated surface of the Sun, some part of the discrepancy here found may be explained; but the observation of the Solar spots, are, by reason of their varied figure—so subject to inaccuracy, that nothing conclusive with regard to their situation or movements, can be expected from the above few observations.

| 1836 | 1 | | 1,2 3 | 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | | | 1 | | | 1 |
|--|-------|----|---|---|-------|-------------|--------------|---------------------|----------------|----------------|
| Observation | 10 | 26 | | | | | | | | |
| | 10, | 30 | | | | | | | | REMARKS. |
| July 19 22 39 39 7 6 31 45,13 45,05 -0,04 6 68 47 2,94 47 7,34 +4,40 | | | | <u> </u> | 1 | | | N. A. | N. A. |] |
| Oct. 6 | Tales | 10 | | | | 1 | 1 | 1 | 1 | |
| Nov. 22 22 56 34,1 15 5 28,70 28,36 -0,34 106 19 48,47 19 53,30 +4,83 +3,66 1837 Dec. 4 25 30,1 21 46,49 46,01 -0,48 111 52 12,85 52 13,01 +0,16 Say | | | | | | 1 | • | 47 7,34 | +4,40 | |
| 25 23 31 64 15 24 0,09 59,94 -0,18 107 53 51,48 53 56,11 +3,05 1837 3 0 52 57,2 19 43 49,04 48,91 -0,13 113 28 46,37 28 48,98 +2,61 8 7 30,8 18 14,01 14,22 +0,21 111 33 31,31 33,045 -0,36 9 10 18,5 24 52,57 52,29 -0,14 112 33 31,31 33,045 -0,36 12 53,0 31 24,32 23,99 -0,33 110 44 49,11 45,02 +0,51 10 12 53,0 31 24,32 23,99 -0,33 110 44 49,11 45,02 +0,11 24 21 29,0 31 24,32 23,99 -0,33 110 44 49,11 45,02 +0,11 20 35 6,7 38 47,81 47,24 -0,67 107 11 4,05 118,11 +4,06 11 28 11,6 21 7 20,03 32,78 -0,25 106 52 16,56 53 84 77,66 13 30 47,2 29 59,02 58,73 -0,25 106 52 16,56 53 87,24 +1,66 13 39 47,2 29 59,02 58,73 -0,29 105 55 54,62 53 53,24 +7,66 13 39 47,2 26 16,13 15,80 -0,33 103 28 59 49 54 44 39,2 22 56 0,18 57 39,51 59,29 -0,33 103 28 106 10 44 49,14 23 30 30 30 30 30 30 30 | | | | | | | | 110 52 20 | 1400 | |
| Dec. 4 25 30, 1 21 46,49 46,01 -0,48 111 52 12,85 52 13,01 +0,16 | | | 23 3 16,4 | | | | | | | |
| 1837 Jan. 3 0 52 57,2 19 43 43 48,91 -0,13 113 28 43,37 28 48,98 +2,61 -0,86 8 7 36,8 18 14,01 14,22 -0,21 111 33 31,31 3 30,45 -0,86 32 6,14 +2,09 10 18,5 24 52,57 52,29 -0,28 111 11 55,61 11 56,14 57 58,04 58,08 5 | | | 25 30,1 | | | | | | | |
| 7 1 4 49.2 20 11 29.49 29.35 | | | 0 50 57 0 | | | | | | 1 , 0,20 | |
| 8 | Jan. | | | | | | | | 1 ' | |
| 9 10 18.5 24 52.57 52.29 -0.28 111 11 55.61 11 56.14 +0.53 +0. | | | | | | | | | | |
| 10 | | | | | | | | | | |
| Peb. 19 23 72 11 20 37 50 50 4 47 7 70 70 70 70 70 | | | 12 53,0 | 31 24,32 | | | | | | |
| Mar. 1 | To b | | | | | -0,68 | | 25 20,50 | | r · |
| Mar. 1 | reb. | | | | | | | | | invisible to |
| 5 30 16,7 25 12,03 11,12 -0,91 106 9 41,18 948,84 +7,66 6 31 6,9 29 59,02 58,73 -0,29 105 55 34,62 55 38,74 +4,12 7 32 5,55 34 53,34 53,08 -0,26 105 40 1,87 40 519 +3,32 38 8 39 54,01 53,62 -0,39 105 23 5,94 23 8,58 +2,64 9 10 35 33,3 45 0,38 0,10 -0,28 105 4 47,76 4 49,95 +2,19 10 13 35 33,3 50,239 11,70 -0,66 104 45 7,91 45 10,10 +2,19 13 39 47,2 22 6 16,13 15,80 -0,33 103 38 0,91 38 8,71 +7,80 16 44 39,2 22 58,39 58,36 -0,03 102 19 16,47 19 19,42 +2,95 16 44 41,29 -0,35 98 30 59,89 31 8,69 +8,80 +8,80 26 441,6 22 28,21 27,66 -0,55 96 35 3,11 35 6,14 +3,03 28 9 19,9 35 2,34 2,50 +0,16 95 11 56,44 11,49 +4,12 29 11 47,6 41 25,93 25,42 24,26 +0,03 29 11 47,6 41 25,93 25,42 24,26 +0,03 20 20 46,6 21 24 51,2 21 26,19 26,18 -0,01 75 26 59,47 26 55,29 4,18 24 25 54 4,64 4,19 4,12 24 25 54 4,64 4,19 4,12 24 25 54 4,64 4,19 4,12 24 25 54 4,64 4,19 4,12 24 25 54 4,10 | Mar. | | 28 11.6 | 21 7 20 02 | | | | | | |
| 6 31 6.9 29 59.02 53,73 -0.29 105 55 34,62 55 38,74 +4,12 7,765 8 33 8,8 39 54,01 53,62 -0.39 105 55 34,62 55 38,74 +4,12 10 10 35 33,3 50 12,39 11,70 -0.66 104 45 7,91 45 10,10 +2,19 10 16 44 39,2 22 616,13 15.80 -0.33 10 38 30,91 38 8,71 +7,80 +2,19 16 44 39,2 22 56 0,1% 57 59,51 59,29 -0,22 97 21,77 7 72 62,66 44,49 10 44,66 | | | 30 16,7 | 25 12.03 | | | | | | observer. |
| 8 8 33 8.8 39 54,01 53,08 -0,26 105 40 1.87 40 519 +3,32 +2,64 9 34 19,0 45 0,38 0,10 -0,28 105 47,76 49,95 +2,19 103 35 33,3 50 12,39 11,70 -0,69 104 45 7,91 45 10,10 +2,19 16 44 39,2 22 58,39 58,36 -0,03 102 19 16,47 19 19,42 +2,95 57 59,51 59,29 -0,22 99 7 21,77 7 26,26 +4,49 22 25 83,39 58,36 -0,03 102 19 16,47 19 19,42 +2,95 10 6,59 6,65 +0,06 22 28,21 27,66 -0,55 96 35 3,11 35 6,14 +3,03 28 49,19 35 23 4 2,50 +0,06 35 14 16,6 4 15,59 3 25,69 -0,34 44 11,29 -0,35 96 35 3,11 35 6,14 +3,03 28 9 19,9 35 2,34 2,50 +0,16 95 11 56,44 11 54,40 -2,04 14 16,6 47 52,60 52,58 -0,02 93 44 7,86 44 11,98 +4,12 22 20 46,6 13 24,52 42,26 +0,03 20 14 16,6 4 53 30,57 30,67 +0,10 72 12 54,94 11 25,13 21 24,51,2 21 26,19 26,18 -0,01 75 26 59,47 26 55,29 -4,18 25 41 6,4 53 30,57 30,67 +0,10 72 12 54,94 11 25,11 24 55,9 3 46 27,66 4 27,70 +0,06 67 54 34,49 54 32,82 11 25 50,26 4 6 10 3,54 4 11,03 32 3,78 21 1 24 55,9 3 46 27,66 4 27,70 +0,06 67 54 34,49 54 32,82 11 25 50 26,4 11 44 53 32,37 0 23,84 +0,14 67 27 34,07 27 30,03 -4,04 11 22 50 26,4 6 10 3,54 4 12 50,58 29 19 20 20 46,6 61 32,45 4 41 24 45 13,94 16,03 12 25 54,1 4 53 33,40 4 52 55 42,24 54,86 +0,62 20 24 41,4 55 55 54,24 54,86 +0,62 20 24 41,4 55 55 54,24 54,86 +0,62 20 24 41,4 55 55 54,24 54,86 +0,62 20 24 41,4 55 55 54,24 54,86 +0,62 20 24 41,4 55 55 54,24 54,86 +0,62 20 24 41,4 55 55 54,24 54,86 +0,62 20 24 41,4 55 55 54,24 54,86 +0,62 20 24 41,4 55 55 54,24 54,86 +0,62 20 24 41,4 55 55 54,24 54,86 +0,62 20 24 41,4 55 55 54,24 54,86 +0,62 20 25 41,1 4 45 13,94 16,03 +0,09 66 51 129,12 11 2654 2-2,58 20 15 7,2 13 11 7,39 7,04 -0,35 101 30 15,89 30 18,03 +2,14 14,09 12 3,8 11 59,81 159,82 -0,29 101 39 19,31 30 21,41 +2,10 12 25 26 28,39,4 11 55,81 59,52 -0,29 101 39 19,31 30 21,41 +2,10 12 25 28 33,4 11 55,81 59,52 -0,29 101 39 19,31 30 21,41 +2,10 12 25 28 33,4 11 55,81 59,52 -0,29 101 39 19,31 30 30 14,4 12 +2,10 12 41,05 40,16 -0,45 101 45 19,56 64 52,98 +3,42 14 14,42 14,05 40,16 -0,45 101 45 19,56 64 52,98 +3,42 14 14,42 14,05 40,16 -0,45 101 45 19,56 64 52,98 | 1 | | 31 6,9 | 29 59,02 | | | | | | |
| 9 34 19,0 45 0,38 0,10 -0.28 105 47,76 4 49.95 +2,19 10 35 33,3 50 12,39 11,70 -0.69 104 45 7,91 45 10,10 +2,19 16 43 39,2 22 58,39 58,36 -0.03 102 19 16,47 19 19,42 +2,95 57 59,51 59,29 -0,22 99 7 21,77 7 26,26 +4,49 22 88,38 3,8 23 4 1,64 1,29 -0,35 98 30 59,89 31 8,69 +3,80 24 23 0 12,5 10 6,59 6,65 +0.06 27 6 67,3 28 42,92 43,99 +0,47 95 54 2,12 54 4,68 +2,56 29 11 47,6 41 25,93 25,69 -0,34 94 28 40,79 28 36 44 11,98 +4,12 20 20 46,6 13 24,54 24,26 +0.03 20 20 46,6 13 24,54 24,26 +0.03 20 20 46,6 13 24,54 24,32 -0.22 76 19 5,37 19 5,60 +0.23 24 51,2 21 26,19 26,18 -0.01 75 26 59,47 26 55,29 -4,18 25 11 22 45,52 21 26,19 26,18 -0.01 75 26 59,47 26 55,29 -4,18 25 11 22 45,59 40 32,16 32,38 40,70 27,00 75 26 59,47 26 55,29 -4,18 11 22 45,59 40 32,16 32,38 40,70 23,38 40,70 24 51,2 21 26,19 26,18 -0.01 75 26 59,47 26 55,29 -4,18 11 22 45,59 40 32,16 32,38 40,70 23,38 40,70 24 51,2 21 26,19 26,18 -0.01 75 26 59,47 26 55,29 -4,18 11 22 45,59 40 32,16 32,38 40,70 23,38 40,70 24,71 -0,34 71 29 1,52 29 3,08 +1,56 33 9 22,5 53 23,70 23,84 +0,14 67 27 34,07 27 30,03 10,30 10,10 10,2 | | | | 34 53,34 | 53,08 | -0,26 | 1 | | | |
| 10 | | | | | | | | | | |
| 13 | | | 35 33.3 | | | | | | +2,19 | |
| 16 | 1 | 13 | 39 47,2 | | | | | | | |
| 22 50 | | 16 | 44 39,2 | | | | | 1 | | |
| 24 23 0 12,5 | | | 1 | <i>5</i> 7 <i>5</i> 9, <i>5</i> 1 | 59,29 | | 99 7 21,77 | . , | | |
| 26 | ļ | | | , | | | 98 30 59,89 | 1 | +8.80 | |
| 27 | | | , | | | +0,06 | 06.05.073 | | | |
| 28 9 19,9 35 2,34 2,50 +0,16 95 11 56,44 11 54,40 -2,04 41 25,93 25,69 -0,34 94 28 40,79 28 36,44 -4,35 -2,04 20 46,6 13 24,54 24,32 -0,22 25 41 6,4 53 30,57 30,67 +0,10 75 26 59,47 26 55,29 -4,18 25 41 3,8 3 1 25,05 24,71 -0,34 -0,01 72 12 54,94 12 53,15 -1,79 30 51 51,0 32 1,78 2,11 +0,33 68 56 13,28 56 11,70 -1,58 67 27 34,07 27 30,03 -4,04 12 25 41,1 4 45 13,94 15,03 +0,09 65 11 29,12 11 2654 -2,58 49 7,74 +1,09 19 23 25 0,3 7 16 19,23 19,72 +0,49 19 23 25 0,3 11 59,81 19 23 25 0,3 11 59,81 22 8 37,0 12 38 39,8 23 1,71 31,26 -0,45 101 39 19,31 39 21,41 +2,10 45 25,98 +3,42 40 38,42 20 15 7,2 13 11 7,39 7,04 -0,35 101 30 15,89 30 18,03 +2,14 -2,10 45 22,98 +3,42 -4,43 -4,67 -4,03 -4,04 -4,35 -4,03 -4,04 -4,35 -4,04 -4,05 -4,04 | | 27 | 6 57,3 | 28 42,92 | | +0.47 | | | | |
| 11 47,6 | | | 9 19,9 | 35 2,34 | | | | , - + | | |
| April 19 0 16 43,8 2 5 24,23 24,26 +0,03 76 19 5,37 19 5,60 +0,23 24,26 +0,03 75 26 59,47 26 55,29 -4,18 25 41 6,4 53 30,57 30,67 +0,10 72 12 54,94 12 53,15 -1,79 30 51 51,0 32 1,78 2,11 +0,33 68 56 13,28 56 11,70 -1,58 39 92,5 53 23,70 23,84 +0,14 67 27 34,07 27 30,03 -4,04 12 25 41,1 4 45 13,94 15,03 +0,09 12 25 541,1 4 45 13,94 15,03 +0,09 12 25 026,4 61 03,54 4,12 +0,58 11 22 50 26,4 61 0 3,54 4,12 +0,58 11 22 50 26,4 61 0 3,54 4,12 +0,58 12 32,50 3 7 16 19,23 19,72 +0,49 19 12 23 25 7,2 13 11 7,39 7,04 -0,35 101 30 15,89 30 18,03 +2,14 12,40 23 11 29,12 11 29,16 20 15 7,2 11 23,8 11 59,81 59,52 -0,29 101 39 19,31 39 21,41 +2,10 observer. | | | 11 47,6 | 41 25,93 | 25,69 | -0,34 | 94 28 40,79 | , , , , , , , | | |
| 20 | April | | 0 16 43 8 | 47 52,60 | 52,58 | -0,02 | 93 44 7,86 | | | |
| 21 | P | | | | 24,26 | +0,03 | me 10 F 0m | | | |
| 25 | | 21 | | 21 26.19 | | | | | +0,23 | |
| May 2 1 6 23,8 | | | | 53 30,57 | | | | | | |
| May 2 1 6 23,8 | | | | 3 1 25,05 | 24,71 | | 1 | 29 3 08 | | |
| 3 9 22,5 | Mav | | | | | | 68 56 13,28 | 56 11,70 | | |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | 3 | | | | | 67 54 34,49 | 54 32,82 | | |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | 11 | 24 55,9 | 4 40 32,16 ! | | | | 27 30,03 | -4,04 | |
| Tuly 9 22 44 11,4 5 55 54,24 6 10 3,54 4,12 +0,58 18 23 20 7,0 7 7 25,62 25,38 -0,24 +0,49 19 23 25 0,3 7 16 19,23 19,72 +0,49 +0,49 90 53 1,4 10 3 22,51 22,81 +0,30 76 27 28,78 28 1 28 33,4 11 53 54,96 54,87 -0,09 90 6 38,28 6 34,25 -4,03 20 15 7,2 12 3,8 20 15 7,2 12 3,8 21 23 3,71 12 3,8 23 5 39,4 11 59,81 12 31,71 12 31,26 -0,45 101 45 19,56 45 22,98 +3,42 | T1 | | 25 41,1 | 4 45 13,94 | | | | 17 44,34 | | |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | ania | | 22 44 11,4 | 5 55 54,24 | 54,86 | +0,62 | - | 2054 | -2,58 | |
| Aug. $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | 18 | | | | +0,58 | | 19 11.77 | +1.32 | |
| Aug. 7 0 46 38,3 9 49 5,48 6,04 $+0,56$ 9 1 28 33,4 11 53 54,96 54,87 $-0,09$ 90 6 38,28 $-0,12$ 21 12 3,8 12 31,71 12 31,71 12 41,05 40,16 $-0,89$ 101 48 6 56 | 1 | 19 | 23 25 0,3 | 7 16 19 23 | | -0.24 | 66 49 6,65 | 49 7,74 | | |
| Sep. $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | Aug. | | 0 46 38,3 | 9 49 5,48 | | +0.49 | | | |) invisible to |
| Sep. $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | | | 10 3 22,51 | | +0.30 | 76 27 28 78 | 27 20 40 | | ∫ the Circle |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$ | Sen. | | | | 54,87 | -0,09 | 90 6 38.28 | 6 34 95 | | observer. |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | i r· | | | | | -0,12 | | | 4,03 | |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | 21 | 12 3,8 | | | -0,35 | 101 30 15,89 | 30 18,03 | +2,14 | • |
| 23 | | | 8 39,8 | 12 31,71 | | -0.45 | 101 39 19,31 | 39 21,41 | +2,10 | |
| 1 7 T I H T T AM 1/ 1111 1 1 1 4 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | | 23 | 5 39,4 1 | 12 41,05 | | -0,89 | 101 48 6,56 | 45 22,98 48 7,98 | +3,42 +1,42 | |

Observed Right Ascension and North Pular Distance of Venus, compared with the places interpolated from the Nautical Almanac.

| | | Madras Mean | A. R. | A.R. | Error | N. P. D. | N. P. D. | Error | |
|--------|---------------|--|-------------------------|------------------|---------------------------------------|-----------------------------|----------------|--|---|
| 183 | 6 | Time of | from | from | of | from | from | of | REMARKS. |
| 100 | Ĭ | Observation. | Observation. | N A | N. A. | Observation. | N.A. | N. A. | |
| 1 | | h.m.s. | h. m. s. | 1 // | " | 0 / " | " | " | |
| Jan. | 4 | 1 40 36,9 | 20 32 33,75 | 33,38 | 0.37 | 110 29 18,27 | 14,20 | -4,07 | |
| o u.s. | 7 | 44 12,6 | 47 59,41 | 59,49 | +0.08 | 109 33 17,28 | 12,44 | 4,84 | |
| | 8 | 45 22,0 | 53 5,58 | 5,48 | -0,10 | 109 13 27,65 | 24,00 | $\begin{bmatrix} -3.65 \\ -1.66 \end{bmatrix}$ | |
| | 16 | 53 47,2 | 21 33 5,09 | 4,89 | -0,20 | 106 16 23,19 105 2 25,68 | 21,53 17,75 | 7,93 | |
| | 19 | 56 34,6 | 47 42,64 | 42.47 32.39 | -0,17 +0,12 | 103 2 25,08 | 47,18 | -3,86 | |
| | 20 21 | 57 27 6 58 20,0 | 52 32,27 57 21,48 | 21.01 | -0,12 | 104 10 51,89 | 53,26 | +1,37 | |
| | 22 | 59 9,9 | 22 2 7,82 | 8,38 | +0.56 | 103 44 34,62 | 36,51 | +1,89 | |
| | 23 | 59 59,7 | 6 54,39 | 54,51 | +0,12 | 103 17 59,75 | 58,10 | -1,65 | |
| İ | 25 | 2 1 35,1 | 16 23,00 | 23.06 | +0.06 | 102 23 40,78 | 39,50 | 1,28 | |
| | 26 | 2 20,9 | 21 5,49 | 5,60 | +0,11 | 101 56 2,01 | 0,70 48,04 | -1,31 -1,45 | |
| | 28 | | 30 27.20 | 26,86 | -0.34 -0.39 | 100 59 49,49 | 16,03 | -3,66 | 1 |
| Trt- | 29 | 4 31,5 7 10,3 | 35 6,25 53 32,57 | 5,86 32,39 | -0.39 -0.18 | 98 34 33,01 | 34,73 | +1,72 | |
| Feb. | $\frac{2}{3}$ | 7 48,2 | 58 6,26 | 6,60 | +0,34 | 98 4 48,52 | 49,90 | +1,38 | |
| | 4. | 8 25,0 | 23 2 39,89 | 39,78 | -0,11 | 97 34 51,72 | 52,91 | +1,19 | |
| | 5 | 9 0,5 | 7 12,25 | 12,16 | -0.09 | 97 4 45,74 | 44,13 | -1,61 | |
| t f | 6 | 9 35,5 | 11 43,88 | 43,72 | -0,16 | 96 34 26,82 | 24,72 16,75 | -2,10 $-4,51$ | |
| i | 8 | 10 43,1 | 20 24,61 | 24,63 | +0.02 -0.22 | 95 33 21,26 95 2 37,72 | 30,44 | 7,28 | |
| ١,, | 9 | 11 15,9 | 25 14,25 | 14,03 35,17 | -0.22 + 0.34 | 90 2 07,72 | ~ | | |
| July | 31 9 | $\begin{bmatrix} 23 & 20 & 5,7 \\ 21 & 5 & 27,8 \end{bmatrix}$ | 7 59 34,83 22 15,69 | 15,65 | -0.04 | 74 48 24,60 | 13,06 | 11,54 | |
| Sep. | 12 | 2 36,4 | 31 14,47 | 14.83 | +0,36 | 74 56 36,90 | 26,73 | 10,17 | |
|] | 20 | 20 57 33,9 | 8 57 44,39 | 44,21 | 0,13 | 75 38 44,87 | 36,74 | -8,13 | |
| Oct. | 3 | 20 54 50,7 | 9 46 16,22 | 16,16 | -0,06 | 77 52 44,79 | 42,15 | -2,64 | |
| Nov. | 25 | 21 9 40.0 | 13 30 5,47 | 5,03 | -0.44 | 97 13 36,36 99 44 53,99 | 35,56 52,74 | -0,80 -1,25 | |
| Dec. | l | 1 20 / | 57 17,26 | 16,68 43,60 | -0.58 -0.55 | 99 44 53,99 | 50,25 | +0,60 | |
| | 5 6 | 15 51,8 | 14 15 44,15 20 23,38 | | -0,51 | 101 46 48,75 | 50,21 | +1,46 | |
| | 19 | | 15 22 36,33 | 35,96 | -0.37 | 106 33 37,93 | 38,03 | +0,10 | |
| 183 | | | | | | | 10.70 | 0.10 | |
| Jan. | 2 | 21 43 0,4 | 16 33 20,37 | 19,96 | | 110 27 13,29 | 13,19 | -0,10 + 6,44 | |
| 1 | 19 | 22 5 59,5 | 18 3 25,93 | 25,13 | -0,80 0.51 | 112 41 24,05 | 30,49 | +3,63 | |
| Feb. | 3 | 27 24,0 | 19 24 2,33 34 41,47 | 1,82 40,89 | -0.51 -0.58 | 111 42 36,87 | 43,17 | +6,30 | |
| | 5 6 | 30 9,4 31 42,4 | 39 59,78 | 59,48 | 0,30 | 111 33 5,82 | 11,83 | +6,01 | |
| | 7 | 32 51,8 | 45 17,64 | 17,91 | 0,63 | 111 22 55,20 | 61,78 | +6,58 | |
| | 8 | 22 34 13,1 | 19 50 34,46 | 34,30 | 0,16 | 111 12 6,97 | 13,17 | +6,20 | |
| İ | 9 | 35 32,3 | 55 50,99 | 50,52 | -0,47 | 111 0 42,45 | 46.77 | +4,32 | |
| | 10 | 36 51,7 | 20 1 6,34 | 5,91 | -0,43 | 110 48 42,37 109 7 20,18 | 42,56 25,18 | $+0,19 \\ +5,00$ | |
| | 17 | 45 33,9 | 37 28.03 | 27,18 41,29 | -0,85 -0,45 | 109 | 20,44 | +6,34 | e e e e e e e e e e e e e e e e e e e |
| | 19 | 47 56,0 49 3.5 | 47 41,74 52 46,87 | 46,38 | -0,49 | 108 15 24,82 | 30,94 | +6.12 | |
| | 20 26 | 55 32,7 | 21 22 55,79 | 55,74 | -0,05 | 106 17 43,98 | 49,02 | +5,04 | |
| Mar. | 1 | 58 30,1 | 37 45,51 | 45,35 | 0,16 | 105 12 37,33 | 38,12 | +0,79 | |
| | 5 | 23 2 16,2 | 57 16,83 | 16,26 | -0.57 | 103 39 46,00 | 52,31 | +6.31 | |
| | 7 | 4 2,5 | 22 6 55,58 | 55,36 | -0.22 | 102 51 4,85 | 12,00 | +7,15 +3,66 | |
| | 8 | 4 55,1 | 11 43,45 | 43,33 | -0.12 | 102 26 16,34 102 1 5,07 | 7,88 | +2,81 | |
| | 9 | | 16 30,73 | 30,37 | -0,36 $-0,53$ | 102 1 5,07 | 36,21 | +4,86 | |
| | 10 | 6 32,7 | 21 16,90 | 16,37 | , , , , , , , , , , , , , , , , , , , | LAUL DO DIJOO | 1, | | i Militari paripaniana di Santa di Santa di Santa di Santa di Santa di Santa di Santa di Santa di Santa di Santa |

| 18 | 37 | Madras Mean Time of | A.R. from | A. R. from | Error | N. P. D. | N. P. D | Error | |
|------------|--------------|------------------------|--------------|------------|----------------|----------------------------|------------|--------------|------------|
| | | Observation. | Observation. | N. A. | N. A. | from Observation. | from N. A. | of N. A. | REMARKS |
| Mar | . 13 | h. m. s. 23 8 54,4 | h. m. s. | // | " | 0 / 1/ | " | 1 " | |
| | 15 | 10 21,7 | 22 35 29,07 | 28,80 | -0.27 | 100 17 12,26 | 10,08 | -2,18 | |
| | 16 | 11 10,1 | 44 53,00 | 53,07 | +0,07 | 99 23 32,11 | 32,34 | +0,23 | 1 |
| | 19 | 13 17,8 | 49 33,56 | 33,41 | -0.15 | 98 56 16,86 | 19,42 | +2,56 | |
| | 20 | | 23 3 31,62 | 30,95 | -0,67 | 97 33 14,68 | 16,66 | +1,98 | ļ. |
| | 21 | 13 58,9 | 8 8,96 | 8,68 | -0,28 | 97 5 11,93 | 11,88 | | |
| | 22 | 14 40,0 | 12 46,22 | 45,85 | -0,37 | 96 36 54,43 | 54,56 | -0.05 | 1 |
| | $\tilde{23}$ | 15 18,3 | 23 17 22,43 | 21,89 | -0,54 | 96 8 25,93 | 26,53 | +0.13 | |
| | 24 | 15 57,7 | 21 58,49 | 58,32 | -0,17 | 95 39 49,93 | 48,49 | +0,60 | |
| | | 16 36,9 | 26 33,67 | 33,74 | +0,07 | 95 11 4,71 | 0,90 | -1,44 | |
| | 26 | 17 54,5 | 23 35 43,67 | 43,42 | -0,25 | 94 13 1,03 | | -3,81 | |
| | 27 | 18 29,4 | 40 16,82 | 17,29 | +0,47 | 93 43 47,49 | 0,43 | -0,60 | € Clock er |
| | 28 | 19 6,7 | 44 50,68 | 50,30 | -0,38 | 93 14 29,68 | 49,03 | +1,54 | ror doubt |
| | 29 | 19 44,9 | 49 24,55 | 24,41 | -0,14 | 92 45 6,70 | 32,12 | +2,44 | ful. |
| . A | 30 | 20 20,5 | 53 57,48 | 57,73 | +0,25 | 92 15 39,89 | 7,28 | +0,58 | |
| April | | 21 32,6 | 0 3 3,08 | 3,01 | -0,07 | 91 16 28,63 | 38,37 | -1,52 | |
| | 7 | 25 6,7 | 30 16,31 | 16,33 | +0,02 | 81 18 10,83 | 28,33 | -0,30 | |
| | 11 | 27 29,3 | 0 48 25,72 | 26,05 | +0,33 | 86 19 41,45 | 11,70 | +0.87 | |
| | 12 | 28 6,2 | 52 59,10 | 58,90 | -0,20 | 85 0 14,08 | 37,74 | -3,71 | |
| | 13 | 28 41,6 | 57 32,25 | 32,02 | -0,23 | 85 20 49,05 | 8,14 | 5,94 | |
| | 14 | 29 18 5 | 1 2 5,36 | 5,44 | +0,08 | 84 51 31,81 | 43,76 | -5,29 | |
| | 17 | 31 11,8 | 15 48,06 | 48,07 | +0,01 | 83 24 10,95 | 25,02 | -6,79 | |
| | 19 | 32 29,0 | 24 58,45 | 58,48 | +0,03 | 82 6 44.79 | 10,08 | -0.87 | |
| | 20 | 33 7,6 | 29 34,25 | 34,56 | +0,31 | | 41,57 | -3,22 | |
| | 21 | 33 47,8 | 34 10,61 | 11,10 | +0,49 | 81 58 16,88 81 29 58.89 | 10,88 | -6,00 | |
| | 23 | 35 9,8 | 43 26,46 | 26,52 | +0,06 | | 52,85 | -6,04 | |
| | 24 | 35 50,6 | 48 5,07 | 5,16 | +0,09 | | 50,32 | -7,02 | |
| | 25 | 36 34,0 | 52 44,27 | 44,43 | +0,16 | | 6,35 | -9,50 | |
| | 26 | 37 17,8 | 57 24,42 | 24,73 | +0,31 | | | 8,83 | |
| 78 AF | 27 | 38 2,2 | 2 2 5,54 | 5,71 | +0,17 | | 21,56 | -471 | |
| May | 1 | 41 8,1 | 20 58,12 | 58,10 | -0.02 | 78 44 23,58 | 21,36 | -2,22 | |
| ¥ . | 3 | 42 45,8 | 2 30 29,33 | 29,84 | +0.51 | | | | |
| June | 2 | 0 14 32,5 | 56 40,89 | 40,91 | +0.02 | 67 11 22 22 | 21 7 | | |
| | 5 | 18 37,3 | 5 12 36,00 | 36,04 | +0.04 | 67 11 28,23 66 43 15.86 | | -3,44 | |
| | 6 | 20 1,2 | 17 55,78 | 55,85 | +0,07 | | | -1,70 | |
| | 9 | 24 12,5 | 33 58,77 | 58,48 | -0,29 | | 11,11 | -0,12 | |
| | 11 | 27 2,9 | 44 42,86 | 42,42 | -0,23 | | 8,88 | -1,05 | |
| | 12 | 28 28,7 | 50 5,02 | 4,88 | -0,14 | | 16,78 | -0,21 | |
| | 13 | 29 54,4 | 55 27,50 | 27,77 | +0,27 | | | -1,37 | |
| | 14 | 31 20,6 | 6 0 50.32 | 50,74 | +0,42 | | 13,86 | 0,83 | |
| | 16 | 34 13,3 | 11 37,21 | 37,13 | -0.08 | 65 55 46,69 | 46,37 | -0,32 | |
| | 17 | 34 39,8 | 16 59,88 | 0,13 | +0.25 | 65 53 0,14 | 0,04 - | -0,10 | |
| | 18 | 37 6,7 | 22 23,88 | 23,57 | -0.31 | 65 52 42,35 | 41,28 - | -1,07 | |
| Y 1 | 25 | 47 5,5 | 7 0 0,15 | 0,52 | +0,37 | 65 53 5,23 66 15 56,65 | 5,49 - | +0,26 | . 1 |
| July | 9 | 1 5 36,0 | 13 45,45 | 45,60 | +0,15 | | | -0,40 | |
| | 11 | 7 59,0 | 24 2,14 | 2,31 | +0,17 | | | + 3,59 | |
| | 12 | 9 8,9 | 29 8,75 | 9,08 | +0,33 | 69 14 12,03 69 30 45.00 | | +2,29 | |
| | 13 | 10 17,6 | 34 14,98 | 14,56 | -0,42 | | 45,33 - | +0,33 | |
| | 14 | 11 25,3 | 39 19,26 | 18,85 | -0,42 $-0,41$ | 69 47 52,42 | 50,90 - | -1,52 | |
| | 20 | 17 44,9 | 9 9 18,85 | 18,84 | 0,41 | 70 5 33,05 | 30 54 - | -2,51 | |
| | 23 | 20 37,5 | 24 2,09 | 2,11 | -0.01 + 0.02 | 72 2 45,60 | 46,37 - | ⊢0,77 | |
| | 28 | 25 2,9 | 48 10.58 | 10,01 | | 73 8 5,48 | 10,24 | 4,76 | |
| lug. | 9 | 33 44,5 | 10 44 12.29 | 11,97 | -0.57 -0.32 | 75 6 9,28 80 26 37.46 | 6,79 _ | -2,49 | |
| | 28 | 43 45,9 | 12 9 9,94 | 50/ | -U.32 [| 80 26 37,46 | | -1,11 | |

| 1837. | Madras Mean Time of Observation. | A. R. from Observation. | A. R. from N. A. | Error of N. A. | N. P. D. from Observation. | N. P. D. from N. A. | Error of N. A. | REMARKS. |
|---------------------------------------|---|--|---|--|---|--|--|----------|
| Sep. 13 14 20 21 22 23 | h. m s. 1 51 29,6 52 1,6 55 26,0 56 2,6 56 40,2 57 18,5 | h. m. s. 13 19 59,89 24 28,49 51 32,75 56 5,77 0 40,08 5 15.01 | 59,53 28,00 32,14 5,39 39,48 14,44 | $\begin{bmatrix} -0.36 \\ -0.49 \\ -0.61 \\ -0.38 \\ -0.60 \\ -0.57 \end{bmatrix}$ | 98 10 51,32 98 40 38,49 101 35 30,98 102 3 53,62 102 31 54,74 102 59 40,23 | 56,26 46,27 35,58 55,49 59,69 47,34 | +4,94 +7,78 +4,60 +1,87 +4,95 +7,11 | |

Observed Right Ascension and North Polar Distance of Mars, compared with the places interpolated from the Nautical Almanac.

| 183 | G | Madras Mean | A. R. | A. R. | Error | N. P. D. | N. P. D. | | |
|------|----------|---|-------------------------|---------------|--|--------------------|--|------------------|----------|
| 100 | · O | Time of Observation. | from | from | of | from | from | of | REMARKS. |
| | | Observation. | Observation. | N. A. | N. A. | Observation. | N. A. | N. A. | |
| | | h. m. s. | h. m. s. | 1 ′ | 11 | 0 / 1/ | 1 " | 1 // | <u> </u> |
| July | | 20 40 19,2 | 4 28 9,90 | 9,52 | -0.38 | 68 28 40,56 | 41.29 | + 0,73 | |
| A | 19 | 39 19,2 | 31 4,83 | 4,54 | -0,29 | 68 21 27,46 | 26,03 | [-1,43] | |
| Aug. | | 19 58 22,0 | 6 19 50,07 | 49.99 | -0.08 | | | | |
| Sep. | 9 | 19 41 7,5 | 6 57 44,13 | 43,59 | -0,54 | 66 39 51,28 | 45,95 | - 5,33 | |
| 1 | 11 12 | 38 30,3 37 11,4 | 7 2 59,07 7 5 36,35 | 59,28 | +0.21 | 66 45 16,85 | 15,46 | — 1,39 | |
| 1 | 13 | 37 11,4 35 49,6 | | 36,40 | +0.05 | 66 48 18,11 | 11,23 | 6,88 | |
| Oct. | | 18 50 10,4 | 7 8 12,34 8 20 40,78 | 12,64 | +0,30 | 66 51 21,35 | 16,36 | - 4,99 | |
| | 14 | 18 48 26,1 | 99 59 01 | 41,05 | +0.27 | 69 14 52,77 | 51,19 | 8,58 | 1 |
| 183 | | 10 40 20,1 | 22 52,91 | 53,46 | +0,55 | | | | 9 |
| Jan. | | 13 16 43,4 | 9 40 18,18 | 18,00 | 0,18 | 71 19 39,84 | 27,37 | -12,47 | i i |
| | 27 | 13 11 22,4 | 38 53,01 | | -0,53 | 11 32,84 | | -12,47 -11,43 | |
| | 28 | 13 5 58,4 | 37 25,45 | 25,10 | -0,35 | | 14,12 | - 9,64 | |
| Į. | 29 | 13 0 34,3 | 35 56,24 | 55.99 | -0,25 | 70 55 18,18 | 6,21 | -11,97 | |
| | 31 | 12 49 40,2 | 32 53,67 | 53,27 | -0,40 | 39 11,00 | 58,35 | -12,65 | |
| Feb. | 2 | 12 38 42,2 | 29 46,43 | 45,64 | -0,79 | 23 19,06 | 4,87 | -14,19 | |
| | 3 | 33 10,5 | 28 10,84 | 10,45 | -0.39 | 15 31,87 | 16,21 | -15,66 | 1 |
| | 4 | 27 38,4 | 26 35,03 | 34,59 | -0,44 | 7 49,57 | | -15,37 | |
| | 5 | 22 - 6.5 | 24 58,66 | 58,26 | -0,40 | 0 16,20 | 0,04 | -16,16 | |
| | 6 | 16 34,7 | 23 22,17 | 21,61 | 0,56 | 69 52 50,49 | 34,66 | -15,83 | į. |
| ļ | 7 | 11 0,9 | 21 45,46 | 44,89 | -0.57 | 45 32,92 | 18,51 | -14,41 | |
| | 8 | 5 20,5 | 20 8.44 | 8,20 | -0.24 | 38 26,93 | 14,16 | -12,77 | |
| ,1 | 9 | 11 59 58,1 | 9 18 32,49 | 31,74 | -0,75 | 69 31 32,82 | 20,48 | -12,34 | |
| | 10 | 54 27,3 | 16 56.68 | 56,10 | -0,58 | 25 50,37 | 38,95 | -11,42 | |
| | 11 | 48 55,6 | | 21,09 | -0.39 | 18 20,70 | | -9,03 | I |
| | 12 | 43 19,6 | 13 47,21 | 46,71 | -0.50 | 12 4,45 | 55,18 | -9,27 | |
| | 13 | 37 25,8 | 12 13,99 | 13,53 | 0,46 | 7 1,36 | | — 7.47 | |
| | 14 | $\begin{bmatrix} 32 & 29,6 \\ 27 & 3,7 \end{bmatrix}$ | 10 41,96 | 41,27 | -0,69 | | 7,57 | -6,00 | |
| | 15 17 | $\begin{bmatrix} 27 & 3.7 \\ 16 & 14.4 \end{bmatrix}$ | 9 11,37 | 10,87 | 0,50 | 68 54 42,75 | 35,07 | - 7,68 | |
| | 18 | 10 53,8 | 6 14,73 | 14,40 | 0,33 | 44 23,73 | 18,02 | - 5,71 | |
| | 19 | $\begin{bmatrix} 10 & 33,8 \\ 6 & 34,7 \end{bmatrix}$ | 4 49,42 3 25,69 | 48,85 | 0,57 | | 32,66 | - 4,41 6,60 | Î |
| | 26 | 10 29 25,9 | 8 44 46,47 | | -0,48 | 35 8,82 | 2,22 | - 6,60 | |
| | 27 | 24 25,6 | 53 42,33 | 45,70 $42,05$ | $\begin{bmatrix} -0.77 \\ -0.28 \end{bmatrix}$ | 11 24.99 9 5.45 | 17.89 | -7,10 | |
| | 28 | 19 29,8 | 52 42,18 | 42,03 $41,32$ | -0.26 -0.86 | 9 5.45 7 2,50 | 59,41 - 57,11 - | - 6,04 5,30 | |
| Mar. | ~i | 14 36,1 | 51 34,21 | 43,60 | -0,60 -0,61 | 5 14.93 | 10,55 | - 5,39 - 4,38 | * |
| | 4 | 9 59 14,5 | 49 9,21 | 8,45 | -0.76 | 1 28,08 | $\begin{bmatrix} 10,95 \\ 24,94 \end{bmatrix}$ | -4,30 $-3,14$ | |
| | 5 | 55 32,8 | 48 23,88 | | -0.75 | 0 43,10 | 40,23 | -3,14 $-2,87$ | |
| 1 | | | | ,.0 | ~ · · · · } | | 40,20 1 | ~ ~,0, | |

| 1837. | Madras Mean Time of Observation. | A. R. from Observation | A. R. from N. A. | Error of N. A. | N. P. D. from Observation. | N. P. D. from N. A. | Error of N. A. | REMARKS. |
|-----------------------------------|---|---|--|--|----------------------------------|---|---|----------|
| Mar. 6 7 8 9 10 11 12 13 16 17 18 | 28 33,5 24 15,6 19 59,8 7 33,6 3 30,7 | h. m. s. 8 47 41,62 47 2,73 46 27,11 45 54,54 45 25,53 44 59,53 44 36,94 44 17,53 43 38,65 43 31,69 43 28,16 | 40,96 2,06 26,44 54.05 24,91 59,03 36,41 17,00 37,90 31,13 27,45 | $ \begin{vmatrix} " \\ -0.66 \\ -0.67 \\ -0.67 \\ -0.49 \\ -0.62 \\ -0.50 \\ -0.53 \\ -0.53 \\ -0.75 \\ -0.56 \\ -0.71 \end{vmatrix} $ | 0 | 10,29 54,75 53,67 6 67 33,71 14.51 8,74 15,71 53,06 48,55 56,08 | $\begin{bmatrix} "\\ -2,60\\ -2,23\\ -2,29\\ -1,69\\ -2,16\\ -1,48\\ -2,32\\ -2,67\\ -0,16\\ -1,56\\ -2,30\\ \end{bmatrix}$ | |

Apparent Right Ascension and North Polar Distance of Vesta, compared with the places interpolated from the Nautical Almanuc.

| 1837 | Madras Mean Time of Observation. | A. R. from Observation. | | | N. P. D. from Observation. | N. P. D. Error of N. A. N. A. | | Remarks. |
|--|---|--|--|----------|---|--|--|----------|
| Mar. 11 12 13 14 15 16 17 20 21 22 25 26 28 29 April 1 2 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 22 | 28 9,2 23 19,1 8 47,4 3 55,6 11 59 4,5 44 31,8 39 42,1 30 3,0 25 14,5 10 52,0 6 6,5 10 51 55,1 47 13,1 42 32,3 37 52,7 33 14,5 28 37,5 24 1,7 19 27,9 14 55,0 10 27,9 5 53,6 1 26,4 9 57 3,8 52 39,5 48 9,7 43 53,8 | h. m. s. 12 10 9,52 9 17,54 8 25,60 7 32,16 6 38,42 5 44,51 4 49,77 2 5,05 1 9,40 0 14,29 11 57 28,87 56 34,76 54 47,25 53 44,11 51 19,30 50 29,37 49 5,02 47 19,16 46 34,11 45 50,56 45 8,05 44 26,92 43 47,05 43 8,74 42 31,72 41 56,42 41 22,37 40 50,35 40 19,39 39 50,31 39 22,77 38 57,18 38 10,77 | 7 11,57 19,88 27,64 34,44 40,81 46,72 7,76 16,49 41,57 11,76 16,59 9 10,45 21,59 11,18 27,48 21,59 9 10,45 21,59 11,18 27,48 27,57 82 24,55 24,5 | ** +2,05 | 78 8 32,31 78 0 30,28 77 52 34,42 77 44 45,96 77 37 2,65 77 29 26,55 77 22 1,54 77 0 32,74 76 53 43,43 76 47 6,49 76 28 23,13 76 22 33,44 76 11 35,40 76 6 27,33 75 52 28,03 75 48 19,34 75 37 19,82 75 34 14,19 75 31 21,95 75 28 46,82 75 26 26,88 75 24 22,54 75 26 26,88 75 24 22,54 75 27 34,63 75 19 46,91 75 18 49,17 75 18 5,45 75 17 31,85 75 17 31,85 75 17 51,06 75 18 25,86 75 20 23,88 | 46,81 46,11 50,17 60,48 17,49 43,80 14,24 44,87 56,85 18,52 34,70 40,64 46,51 38,38 39,13 27,53 31,35 23,32 31,24 55,36 34,82 30,61 42,69 10,88 55,23 55,71 13,79 45,02 | +14,50 15,83 15,75 14,52 14,84 17,25 12,70 12,13 13,42 12,03 11,57 7,20 11,11 11,05 11,10 8,19 11,53 9,13 9,29 8,54 7,94 8,06 7,57 8,32 6,54 8,34 6,77 | |

| 1836 | Madras Mean Time of Observation | A. R. from Observation. | A. R. from N. A. | Error of N. A. | N. P. D. from Observation. | N. P. D. from N. A. | Error of N. A. | REMARKS. |
|---|--|--|---|---|--|---|--|----------|
| April 23 26 27 28 1837 | h. m. s. 9 30 59,0 18 19,7 14 6,5 9 59,1 | h. m. s. 11 37 50,11 36 45,21 36 33,34 | Places given approxim- atch only in the N. A. | " | 75 21 45,89 75 27 19,66 75 29 37.78 75 32 10,81 | | " | |
| Aug. 27 28 29 Sep. 13 14 21 22 23 24 27 | 12 51 56,7 47 9,6 42 21,5 11 29 41,5 25 3,3 10 51 45,4 47 4,0 42 23,6 37 44,3 24 12,6 | 23 15 14,52 14 22,13 13 30,21 22 59 56,73 59 4,39 53 16,73 52 31,02 51 46,33 51 2,68 48 59,38 | 16,13 24,39 32,04 58,60 6,02 18,77 32,88 48,09 4,51 1,00 | +1,61 2,26 1,83 1,87 1,63 2,04 1,86 1,76 1,83 1,62 | 106 3 37,22 106 11 42,15 106 19 44,08 108 3 35,34 108 9 5,66 108 41 15,29 108 44 55,29 108 48 20,64 108 51 31,98 108 59 40,51 | 20,34 26,14 26,87 23,72 53,03 4,36 44,56 10,45 21,98 29,75 | -16,88 16,01 17,21 11,62 12,63 10,93 10,73 10,19 10,00 10,76 | |

Apparent Right Ascension and North Polar Distance of Juno, compared with the places interpolated from the Nautical Almanac.

| 183 | 6 | Madras Mear Time of Observation. | from | A. R. from N. A. | Error of N. A. | N. P. D. from Observation. | N. P. D. from N. A. | Error of N. A. | REMARKS. |
|---------------|----------------|--|------------------------------------|-------------------------|------------------------|------------------------------------|---------------------------|---|-------------------------------------|
| Jan. | 2 | h. m. s. 11 50 55,7 46 6,8 | h. m. s. 6 36 39,36 35 46,55 | 35,76 42,97 | _3,60 3,58 | 89 25 24,11 89 20 5,30 | 44,32 28,33 | +20,21 $23,03$ | , |
| | 6 7 8 | 31 44,1 26 57,7 22 12,4 | | 7,59 17,09 27,42 | 3,66 3,48 3,47 | 89 2 40,10 88 56 18,76 88 54 | | 21,35 22,24 | a Star ob- |
| | 11 13 | 8 0,7 10 58 39,0 | 29 6,84 27 36,25 | 3,29 $32,42$ | 3,55 3,83 | 88 28 27,83 88 13 14,16 | 35,68 | 23,95 21,52 | (mistake. |
| | 14 16 24 | 53 58,6 44 43,2 8 43,4 | 25 28,83 | 48,77 25,29 51,09 | $3,61 \\ 3,54 \\ 3,64$ | 88 5 17,82 87 54 86 36 32,10 | 38,50 53,17 | 20,68 21,07 | a Star ob- served by mistake. |
| Feb. | 31 | 9 38 42,7 34 30,0 | 18 24,98 18 10,90 | 21,73 7,79 | $3,25 \\ 3,11$ | 85 27 43,67 85 17 41,71 | 2,69 58,31 | 19,02 16,60 | |
| 1833 April | 2 7 11 | 30 22,9 12 27 41,2 | 17 58,61 13 46 49,29 | 55,75 44,93 | 2,86 4,36 | 85 7 33,56 89 53 47,86 | 51,80 | 18,24 — 7,43 | very faint. |
| | 12 18 | 22 58,3 11 54 38,7 | 46 1,96 41 17,56 | 57,86 14,27 | 4,10 3,29 | 89 47 26,13 89 3 54,29 | 18,41 51,62 | $ \begin{array}{c c} -7,72 \\ -2,67 \end{array} $ | |
| | 23 27 | 31 7,5 12 24,0 | 37 25,15 | 21,33 | 3,82 | 88 31 21,51 88 7 41,12 | 20,65 35,05 | - 0,86 - 6,07 | |

Apparent Right Ascension and North Polar Distance of Pallas, compared with the places interpolated from the Nautical Almanac.

| 1836 | Madras Mean Time of Observation. | A. R. from Observation. | A. R. from N. A. | Error of N. A. | N. P. D. from Observation. | N. P. D. from N. A. | Error of N. A. | REMARKS. |
|----------------------------|--|--|---------------------------------|-------------------------------|---|----------------------------------|---|---------------------|
| Aug. 17 Sep. 10 1837 | h. m. s. 11 13 55,3 9 24 53,9 | h. m s. 20 58 27,79 20 43 46,11 | 29,49 47,46 | +1,70 1,35 | 0 / 7 78 46 25,87 83 22 58,84 | 3,04 30,85 | | thick haze faint |
| Oct. 13 16 23 25 | 12 48 29,5 35 32,4 2 36,2 11 53 7,6 | 2 18 4,00 15 54,80 10 29,23 8 52,42 | 7,73 58,13 32,96 56,21 | +3,73 3,33 3,73 3,79 | 108 25 46,49 109 14 57,40 111 0 57,31 111 28 32,49 | 25,58 42,43 44,09 19,07 | $\begin{bmatrix} -20,91 \\ 14,97 \\ 13,22 \\ 13,42 \end{bmatrix}$ | |

Apparent Right Ascension and North Polar Distance of Ceres, compared with the places interpolated from the Nautical Almanac.

| 1836 | Madras Mean Time of Observation. | A. R. from Observation. | A. R. from N. A. | Error of N. A. | N. P. D. from Observation. | N. P. D. from N. A. | Error of N. A. | REMARKS. |
|---------|--|-------------------------------|------------------------|----------------------|----------------------------------|---------------------------|----------------------|-------------------|
| | h. m. s. | h. m. s. | 11 | 19 | 0 / // | " | 17 | |
| Sep. 12 | 12 1 0,3 | 23 28 10,79 | 10,70 | -0,09 | 110 44 57,12 | 48,64 | - 8,48 | 1 |
| Oct. 1 | 10 31 16,5 | 13 7,18 | 7,04 | -0.14 | 111 42 16.52 | 10,08 | 6,44 | |
| 3 | 22 3,4 | 11 45,90 | 45,67 | 0,23 | 44 4,82 | 1,21 | 3,61 | |
| 6 | 8 21,6 | 9 50,94 | 51,04 | +0,10 | 45 20,87 | 15.63 | 5,24 | |
| 7 | 3 49,8 | 9 14,92 | 14,95 | +0.03 | | 16,01 | 8,45 | ļ |
| 8 | 9 59 18,8 | 8 40,05 | 39,89 | -0,16 | 45 10,90 | 4,27 | 6,63 | |
| 1837 | | | ,,,,, | 0,20 | 10,00 | 7,21 | 0,00 | |
| Dec. 17 | 11 14 40,6 | 4 59, 17,27 | 18,35 | +1,08 | 67 37 36,77 | 28,96 | 7,81 | [obsd. at circle. |
| 18 | 8 45,8 | 57 17,05 | 17,87 | +0,82 | 35 36,44 | 58,38 | | Probably a star |

Apparent Right Ascension and North Polar Distance of JUPITER, compared with the places interpolated from the Nautical Almanac.

| 1836 | Madras Mean Time of Observation. | A. R. from Observation. | A. R. from N. A. | Error of N. A. | N. P. D. from Observation. | N. P. D. from N. A. | Error of N. A. | REMARKS. |
|------|--|-------------------------------|------------------|----------------------|----------------------------------|---------------------------|----------------|--|
| | h.m. s. | h. m. s. | " | 11. | 0 / # | " | 11 | Manageria, injurisment property and |
| | 2 12 2 22,3 | 6 46 57,33 | 57,62 | +0,29 | 66 54 53,56 | 56,62 | +3,06 | |
| | 6 11 43 9,0 | 44 37,85 | 38,19 | +0,34 | 51 50,89 | 49,94 | -0.95 | |
| | 7 38 38,4 | 44 3,14 | 3,55 | +0,41 | 51 3,99 | 4,82 | +0.83 | |
| | 8 34 8,3 | 43 28,57 | 29,04 | +0,47 | 50 20,34 | 20,40 | +0.06 | |
| | 9 29 38,4 | 42 54,34 | 54,70 | +0,36 | 49 35,37 | | +1,40 | |
| | 1 20 37,9 | 41 46,14 | 46,60 | +0,46 | 48 9,87 | 11,62 | +1,75 | |
| | 3 11 39,4 | | 39,48 | +0,39 | 46 47,54 | 48,81 | +1,27 | |
| | 4 7 9,7 | 40 6,08 | 6,34 | +0,26 | 46 8,92 | 8,69 | -0,23 | |
| | 6 10 58 12,8 | 39 0,08 | 0,72 | +0,64 | 44 50,35 | 51,05 | +0.70 | |
| | 9 44 50,6 | 37 25,43 | 25,98 | +0.55 | 43 3,52 | 0,41 | -3,11 | |
| 1 | 0 40 24,0 | 36 54,52 | 55,15 | +0,60 | 42 27,22 | 25,10 | -2,12 | |
| | 4 22 41,9 | 34 | | | 40 12,65 | 12,45 | -0.20 | |
| 3 | | 31 51,27 | 51,39 | +0.12 | 36 51,96 | 52,39 | +0.43 | 1 |
| | 1 47 46,8 | 31 27,27 | 27,50 | +0,23 | 36 27,52 | 27.05 | -0,45 | |
| 1 | 2 43 27,4 | 31 3,90 | 4,24 | +0.34 | 36 0,43 | 2,54 | +2,11 | |
| | 3 39 9,4 | 30 41,60 | 41,67 | +0.07 | 35 38,71 | 38,82 | +0,11 | |
| | 4 34 51,7 | 30 19,84 | 19,82 | -0.02 | 35 14,70 | 15,81 | +1,11 | |
| | 5 30 34,5 | 29 58,75 | 58,68 | -0,07 | 34 53,33 | 53,40 | +0.07 | |
| | 7 22 3,6 | 29 18,81 | 18,64 | -0,17 | 34 11,73 | 11,47 | -0.26 | |
| | 8 17 48,5 | 29 0,09 | 59,74 | -0,35 | 33 51,93 | 51,56 | -0.20 -0.37 | |
| | 0 9 20,9 | 28 24,60 | 24.29 | -0.31 | 33 14,51 | 13,83 | -0.68 | |
| | 5 8,9 | 28 8,03 | 7,74 | -0,29 | 32 55,86 | 56,02 | | |
| | 3 8 56 46,3 | 27 37,10 | 36,97 | -0,13 | 32 23,25 | 22,58 | +0,16 | |
| | 4 52 36,9 | 27 23,24 | 22,86 | -0,38 | 32 6,65 | 6,91 | -0.67 | |
| | 5 48 27,2 | 27 9,76 | 9,57 | — 0,19 | 31 53,05 | 51,84 | +0.26 | en en en en en en en en en en en en en e |
| | 6 44 19,0 | 26 57,69 | 57,12 | -0.57 | 31 | 37,47 | -1,21 | |
| | 7 40 11,5 | | 45,52 | -0,40 | 31 25,73 | 23,61 | 0.10 | |
| | 8 36 5,0 | 26 35,06 | 34,76 | -0,30 | 31 13,23 | 10,54 | -2,12 | |
| | 23 50,5 | 26 8,13 | 7,61 | -0,52 | 29 37,60 | 35,13 | -2,69 | |
| 1 2 | 23 15 44,9 | 25 54,10 | 53,81 | 0,29 | 30 13,28 | 14,53 | -2,47 + 1,25 | |

Apparent Right Ascension and North Polar Distance of JUPITER continued.

| | | I | | ************************************** | | | | | |
|------|---------------|---|--------------------|--|-------|------------------------|-------|--------------|----------|
| 100 | 0 | Madras Mean | | A. R. | Error | N. P. D. | N.P.D | | |
| 183 | 0 | Time of | from | from | of | from | from | of | REMARKS. |
| | | Observation. | Observation. | N.A. | N.A. | Observation. | N. A. | N. A. | |
| | | h. m. s. | h. m. s. | " | " | 0 / " | " | " | |
| Feb. | 26 | 8 3 42,6 | 6 25 39,63 | 39,62 | 0,01 | 66 29 49,59 | 49,03 | -0,56 | |
| * * | 27 | 7 59 43,6 | 25 36,69 | 35,82 | 0,87 | 29 40,27 | 40,62 | +0,35 | |
| Mar. | | 6 57 55,1 | 26 43,43 | 43,41 | -0,02 | 28 55,84 | 57,65 | +1,81 | |
| | 17 | 46 43,8 | 27 19,37 | 19,43 | +0,06 | 29 7,25 | 6,15 | -1,10 | |
| | 18 | 43 1,2 | 27 32,89 | 32,87 | -0.02 | 29 8,25 | 10,16 | +1,91 | |
| r | 19 | 39 20,2 | 27 47,77 | 46,90 | -0.87 | | 14,88 | | |
| June | | 1 50 53,8 | 25 30,81 | 30,55 | -0,26 | 67 40 57,52 | 54,34 | -3,18 | |
| Sep. | 9 | 21 27 1,2 | 43 54,63 | 54,35 | -0,28 | 71 22 44,39 | 42,30 | -2,09 | Art F |
| | | 21 17 34,2 | 46 15,62 | 15,83 | +0,21 | 32 25,11 | 21,51 | -3,60 | |
| Oct. | 20 | $\begin{bmatrix} 20 & 52 & 8.8 \\ 20 & 13 & 17.3 \end{bmatrix}$ | 52 19,45 | 18,91 | -0.54 | 55 14,36 | 13,07 | -1,29 | |
| oct. | $\frac{2}{3}$ | 7 | 9 0 39,90 | 39,82 | -0.08 | 72 27 37,17 | 38,85 | +1,68 | |
| | 6 | | 1 18,98 | 18,92 | 0,06 | 30 13,32 | 10,76 | -2,56 | |
| | 12 | | 3 13,54 | 13,25 | -0.29 | 37 48,45 | 49,23 | +0.78 | |
| | 13 | 19 40 4,2 36 46,0 | 6 49,94 7 24.98 | 49,89 | 0,05 | 52 14,50 | 15,62 | +1,12 | |
| | 14 | 33 24,3 | 7 24,98 7 58,53 | 24,25 | -0.73 | 54 35,48 | 35,05 | -0.43 | ALIJNE 4 |
| | 19 | 16 21,1 | 10 40,39 | 58,16 | -0.37 | 56 50,97 73 7 46,61 | 50,71 | -0.26 | |
| 183 | | 10 21,1 | 10 40,39 | 39,81 | 0,58 | 73 7 46,61 | 44,83 | -1,78 | |
| Jan. | 26 | 12 43 19,7 | 9 6 49,00 | 48,29 | 0,71 | 72 29 15,51 | 14,28 | 1 02 | |
| | 27 | 38 52,4 | 6 17,72 | 16,93 | 0,79 | 26 51,27 | 50,01 | -1,23 $1,26$ | |
| | 28 | 34 24,4 | 5 46,19 | 45,41 | 0,79 | 24 25,75 | 25,70 | 0,05 | |
| | 29 | 29 57,4 | 5 14,30 | 13,76 | 0,73 | 22 1,82 | 1,49 | 0,03 | |
| | 31 | 21 1,9 | 4 10,71 | 10,16 | 0,55 | 17 15,35 | 13,57 | 1,78 | |
| ₹eb. | 2 | 12 7,1 | 3 6,95 | 6,31 | 0,64 | 12 32,37 | 27,37 | 5,00 | |
| | 3 | 7 38,2 | 2 35,13 | 34,41 | 0,72 | 10 8,34 | 5,06 | 3,28 | |
| | 4 | 3 10,6 | 2 3,31 | 2,53 | 0,78 | 7 46,85 | 43,75 | 3,10 | |
| | 5 | 11 58 42,8 | 1 31,10 | 30,68 | 0,42 | 5 24,68 | 22,99 | 1,69 | |
| | 6 | 54 16,4 | 0 59,56 | 58,90 | 0,66 | 3 6,13 | 3,13 | 3,00 | |
| | 7 | 49 46,8 | 0 27,79 | 27,21 | 0,58 | 0 44,61 | 44,27 | 0,34 | |
| | 8 | 45 21,5 | 8 59 56,18 | 55,64 | 0,54 | 71 58 28,37 | 26,51 | 1,86 | |
| | 9 | 40 53,7 | 59 24,85 | 24,20 | 0,65 | 56 9,43 | 10,05 | +0,62 | |
| | 10 | 36 27,1 | 58 53,50 | 52,93 | 0,57 | 53 55,91 | 54,79 | -1,12 | |
| | 11 | 31 59,2 | 58 22,30 | 21,81 | 0,49 | 51 44,00 | 40.93 | 3,07 | |
| | 12 | 26 26,3 | <i>57 5</i> 1,39 | 50,97 | 0,42 | 49 28,67 | 28,57 | 0,10 | |
| | 13 | | 57 21,05 | 20,33 | 0,72 | 47 18,95 | 17,80 | 1,15 | |
| | 14 | 18 39,5 | 56 50,52 | 49,80 | 0,72 | 45 9,30 | 8,05 | 1,25 | } |
| | 15 | 14 14,9 | 56 20,46 | 19,72 | 0.74 | 43 3,05 | 1,60 | 1,45 | |
| | 17 | 5 22,3 | 55 21,05 | 20,49 | 0,56 | 38 53,68 | 52,60 | 1,08 | |
| | 18 | 0 58,4 | 54 52,10 | 51,38 | 0,72 | 36 53,07 | 51,05 | 2,02 | |
| | 19 | 10 56 33,7 | 55 23,22 | 22,63 | 0,59 | 34 52,83 | 51,59 | 1,24 | |
| | 20 | 52 9,7 | 55 54,95 | 54,26 | 0,69 | 32 52,66 | 54,14 | +1.48 | |
| | 21 | 47 45,5 | 53 26,69 | 26,29 | 0,40 | 31 2,09 | 58,73 | -3,36 | |
| | 26 | 24 53,7 | 50 13,59 | 13,04 | 0,55 | 21 57,26 | 56,45 | -0,81 | |
| | 27 | 20 32,3 | 49 48,41 | 47,84 | 0,57 | 20 16,65 | 15,34 | -1,31 | |

Apparent Right Ascension and North Polar Distance of Saturn, compared with the places interpolated from the Nautical Almanac.

| 1836 | 1 | [M-3 M | A D | 1 4 7 | <u> </u> | <u> </u> | <u> </u> | 1 | 1 |
|--|--------|-----------------|--------------------------|-------|----------|--------------|----------|----------|----------|
| Observation Observation N. A. N. A. Observation N. A. N. A. Observation N. A. N. A. A. Observation N. A. N. A. A. Observation N. A. N. A. A. A. A. A. A | 1926 | Madras Mean | | A. R. | 1 | N. P. D. | N. P. D | Error | _ |
| April 13 12 37 21,5 14 5 21,56 21,60 +0,04 99 48 37,10 53,39 +16,29 144 33 8,6 5 4,47 4,56 +0,09 47 3,42 19,93 156 28 55,0 4 47,23 47,45 +0,22 45 28,80 12,45 17,65 161 24 43,4 4 30,29 30,11 -0,18 43 54,80 12,45 17,65 17 20 29,0 4 12,89 13,03 +0,14 42 21,36 39,55 17,66 19 12 3,0 3 38,20 38,43 +0,23 39 13,78 31,83 18,05 20 7 49,7 3 20,97 21,09 +0,12 37 41,46 58,67 17,21 22 11 59 23,4 2 46,34 46,36 +0,02 35 33,45 52,55 19,10 23 55 9,8 2 28,86 26,99 +0,13 33 2,50 19,88 17,39 24 50 57,2 2 11,59 11,64 +0,05 31 27,80 47,63 19,83 24 50 57,2 2 11,59 11,64 +0,05 31 27,80 47,63 19,83 25 29 29 50,6 0 45,15 45,28 +0,13 23 51,92 12,65 20,73 29 29 50,6 0 45,15 45,28 +0,13 23 51,92 12,65 20,73 29 29 50,6 0 45,15 45,28 +0,13 23 51,92 12,65 20,73 29 4 35,2 59 30,85 20,69 -0,26 16 31,82 53,49 21,67 25 4 35,2 59 30,85 20,69 -0,26 16 31,82 53,49 21,67 27 10 56 10,3 58 31,13 31,80 +0,67 12 18,97 39,91 20,94 28 28 34 44,9 57 58,60 58,56 -0,04 9 34,70 56,35 20,65 29 47 44,9 57 58,60 58,56 -0,04 9 34,70 56,35 20,65 29 47 44,9 57 58,60 58,56 -0,04 9 34,70 56,35 20,65 29 47 44,9 57 58,60 58,56 -0,04 9 34,70 56,35 20,65 29 47 44,9 57 58,60 58,56 -0,04 9 34,70 56,35 20,65 20 47 44,9 57 58,60 58,56 -0,04 9 34,70 56,35 20,65 21 10 10 20 31 17,72 17,90 +0,18 38 40,47 43,11 23,84 31 10 5,2 50 40,63 40,72 +0,09 85 81,24 43,98 20,44 31 27 9,8 51 26,85 26,39 +0,04 57 34,22 23,85 20,43 31 23 6,8 50 55,73 49 48,16 47,87 -0,29 31 32 6,8 50 55,73 49 48,16 47,87 -0,29 31 4 14 14 14 14 14 14 1 | 1000 | | | NT A | | | | | REMARKS. |
| April 13 | | O DSCI VILIOII. | | M. M. | i | Observation. | N. A. | N. A. | |
| 14 | | | | 1 | 11 | 0 / // | " | " | |
| 15 | | 12 37 21,5 | | | +0,04 | 99 48 37,10 | 53,39 | +16,29 | |
| 16 | | | , | | | 1 | 19,93 | 16,51 | |
| 17 | | 28 55,0 | | | | 45 28,80 | | | |
| 19 | | | | | | 43 54,80 | | | |
| 20 | | | | | | 42 21,36 | | | |
| 22 11 59 23.4 2 46.34 46.36 +0.02 35 33.45 52.55 19.10 23 55 9.8 2 28.86 28.99 +0.13 33 2.50 19.89 17.39 26 42 32.7 1 36.90 36.99 +0.09 28 25.63 44.31 18.68 29 29 50.6 0 45.15 45.28 +0.13 23 51.92 12.65 20.73 4 8 47.2 13 59 20.85 20.59 -0.026 16 31.82 53.49 21.67 4 8 47.2 13 59 20.85 20.59 -0.26 16 31.82 53.49 21.67 5 4 35.2 59 4.03 3.94 -0.09 15 6.10 28.12 22.02 7 10 66 10.3 58 31.13 31.80 +0.67 10 59.32 17.28 22.02 7 10 39 22.5 57 76.88 65.71 +0.03 65.59 31.519 19.26 11 39 22.5 57 76.88 26.71 +0.03 65.59 31.519 19.26 12 23 8.2 55 6.25 24.98 -0.21 146.42 8.87 22.45 18 10 5.2 55 50.63 40.72 +0.09 98 58 12.24 32.98 20.74 19 45 55.1 55 26.35 26.39 +0.04 57 3.42 23.82 20.43 28 28 34.1 53 28.28 28.32 +0.04 37 47.90 11.61 23.71 28 28 34.1 53 28.28 28.32 +0.04 37 47.90 11.61 23.71 29 49 17.0 54 31.37 31.38 +0.01 52 40.93 2.13 21.20 28 28 34.1 53 28.28 83.92 +0.04 37 47.90 11.61 23.71 29 40 40 40 40 40 40 40 4 | | | 3 38,20 | 38,43 | | 39 13,78 | | | 1 |
| 23 | | | | 46 36 | +0,12 | | | | |
| 24 | | | | | | 30 33,45 | | | |
| 26 | | | | | | 31 97 90 | | | |
| 28 | | | | | | 28 25 63 | | | |
| May 1 | | | | | | | | | |
| May 1 | | | the second of the second | 45.28 | +0.13 | 23 51 92 | | | |
| 4 8 47.2 13 59 20,85 20,59 | | | | | | 20 54.84 | | | |
| 5 4 35,2 59 4,03 3,94 -0,09 15 6,10 28,12 22,094 10 56 10,3 58 31,13 31,80 +0,67 10 59,32 17,28 17,96 11 39 22,5 57 26,68 26,71 +0,03 6 55,93 15,19 19,26 15 22 38,2 56 25,19 24,98 -0,21 1 46,42 8,87 22,45 11 31 13,9 51 10,34 10,07 -0,27 33 10 19 25,3 49 47,61 47,81 -0,26 46 59 25,3 49 47,61 47,81 -0,26 46 59 25,3 49 48,16 47,87 -0,29 10 4 35 48,49 6,56 18,07 33 6,8 56 56,42 -0,26 33 3,83 47 56,67 47,40 47,41 -0,20 48 13,17 31 13,57 14 49 32,50 31,85 -0,65 10,34 10,07 -0,27 30 10 9 26,3 41 12 17,72 41,190 23,194 42,22 22,78 11 29 19,9 46 35,43 34,94 -0,49 23 19,44 42,22 22,78 14 16 40,0 45 43,12 42,14 -0,98 15 12 77 46 20,598 25,38 -0,60 15 3,24 13 3,21 35 17,05 16,77 -0,28 102 42 43,60 3,22 19,62 | | | 13 59 20,85 | | | 16 31.82 | | | |
| 8 52 1,0 58 14,95 14,71 -0,24 10 59,32 17,28 17,96 11 39 22,5 57 26,68 26,71 +0,03 6 55,93 15,19 19,26 15 22 38,2 56 25,19 24,98 -0,21 1 46,42 8,87 22,45 23,94 23,98 20,74 23,99 20,74 23,99 20,74 23,99 20,74 23,99 20,74 24,98 -0,04 57 3,42 23,85 20,43 23,99 20,74 24,98 -0,04 37 47,90 11,61 23,71 31 31,39 51 10,34 10,07 -0,27 38 10,83 35,73 24,90 12 27 9,8 51 10,34 10,07 -0,27 38 10,83 35,73 24,90 12 27 9,8 51 2,68 2,58 -0,10 37 45,21 31,39 48,63 -0,26 35 24,73 47,10 22,37 30 15 9,5 49 48,69 48,13 -0,46 35 24,73 47,10 22,37 35 44,33 7,74 23,41 -0,20 48,13 49 41,13 41,15 49 47,61 47,41 -0,20 48,13 49 41,13 41,15 49 44,13 44,15 49 47,61 47,41 -0,20 47,61 47,41 -0,49 27,41 47,41 47,41 47,41 47,41 47,41 47,41 47,41 47,41 47,41 47,41 47,41 47,41 47,41 47,41 47,41 47,41 47,41 47,4 | | 4 35,2 | | | | | 28.12 | | |
| 8 52 1,0 58 14,95 14,71 0,24 10 59,32 17,28 17,96 11 39 22,5 57 26,68 26,71 +0,03 6 55,93 15,19 19,26 15 22 38,2 56 25,19 24,98 0,21 1 46,42 8,87 22,45 18 10 52 55 40,63 40,72 +0,09 98 58 12,24 32,98 20,74 19 5 55,1 55 26,35 26,39 +0,04 57 3,42 23,85 20,43 23 94 17,0 54 31,37 31,38 +0,01 52 40,93 2,13 21,20 28 28 34,1 53 28,28 28,32 +0,04 37 47,90 11,61 23,71 31 13,9 51 10,34 10,07 -0,27 38 10,83 35,73 24,90 27 9,8 51 2,68 2,58 -0,10 37 45,21 9,15 23,94 13 23 68 50 55,73 55,43 -0,30 37 22,83 44,57 21,74 14 19 4,4 50 48,89 48,63 -0,26 36 58,22 22,09 23,87 17 6 2,2 50 30,38 30,30 -0,08 36 4,61 27,24 22,63 23 3,8 49 51,06 50,80 -0,26 35 24,73 47,10 22,37 30 15 9,5 49 48,69 48,13 -0,46 35 44,33 7,74 23,41 -0,20 -0,26 36 55,28 25,38 49 47,61 47,41 -0,20 -0,26 33 3,73 19,72 15,99 1837 49 48,16 47,87 -0,29 -0,45 33 3,73 19,72 15,99 33 38,3 47 56,67 56,42 47,61 47,41 -0,20 -0,45 33 3,373 31,972 33,94 41,15 40,02 41,13 41,15 40,02 | | | 58 31,13 | | +0,67 | | | | haze |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | | 58 14,95 | | | 10 59,32 | | | ******* |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | | 57 58,60 | | | | 55,35 | | í |
| 18 10 5,2 55 40,63 40,72 +0,09 98 58 12,24 32,98 20,74 19 5 55,1 55 26,35 26,39 +0,04 57 3,42 23,85 20,43 28 28 34,1 53 28,28 28,32 +0,04 37 47,90 11,61 23,71 June 10 8 35 17,1 51 17,72 17,90 +0,18 38 40,47 4,31 23,84 11 31 13,9 51 10,34 10,07 -0,27 38 10,83 35,73 24,90 12 27 9,8 51 2,68 2,58 -0,10 37 45,21 9,15 23,94 13 23 6,8 50 55,73 55,43 -0,30 37 22,83 44,57 21,74 14 19 4,4 50 48,89 48,63 -0,26 36 58,22 22,09 23,87 17 6 2,2 50 50,38 | | | | | | 6 55,93 | | 19,26 | i |
| 19 | | | 56 25,19 | | | | | | |
| 23 9 49 17,0 54 31,37 31,38 +0,01 52 40,93 2,13 21,20 28 28 34,1 53 28,28 28,32 +0.04 37 47,90 11,61 23,71 11 31 13,9 51 10,34 10,07 -0,27 38 10,83 35,73 24,90 12 27 9,8 51 2,68 2,58 -0,10 37 45,21 9,15 23,94 13 23 6,8 50 55,73 55,43 -0,30 37 22,83 44,57 21,74 14 19 4,4 50 48,89 48,66 -0,26 36 58,22 22,09 23,87 17 6 2,2 50 30,38 30,30 -0,08 36 4,61 27,24 22,63 20 7 52 41,2 50 15,29 15,16 -0,13 35 28,40 50,48 22,08 28 23 3,8 49 51,06 50,80 -0,26 35 24,73 47,10 22,37 30 15 9,5 49 48,69 48,13 -0,46 35 44,33 7,74 23,41 July 2 7 16,5 49 47,61 47,41 -0,20 -0,29 4 6 59 25,3 49 48,16 47,87 -0,29 -0,45 33 3,73 19,72 15,99 May 1 12 11 35,7 14 49 32,50 31,85 -0,65 31,85 -0,65 33 36,82 59,80 22,98 4 11 58 54,6 48 39,01 38,68 -0,33 32 17,72 41,39 23,67 11 29 19,9 46 35,43 34,94 -0,49 23 19,44 42,22 22,78 12 25 6,6 46 17,91 17,42 -0,49 23 19,44 42,22 22,78 14 16 40,0 45 43,12 42,14 -0,98 10 2 42 43,60 3,22 19,62 July 11 7 18 13,1 35 17,05 16,77 -0,28 102 42 43,60 3,22 19,62 | | | | | | | | | I |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | 9 49 17 0 | 50 20,35 | | | | | | 1 |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | 28 34 1 | | | 1 -0,01 | 52 40,93 | | | |
| 11 | | | | | | 39 40 47 | | | |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | | | | | 38 10 92 | | | |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | , , | | | _ | 37 45 21 | | | |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | | | | | 37 22.83 | | | |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | | | | | 36 58.22 | | | |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | 6 2,2 | 50 30,38 | | | | | | 1 |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 20 | | | 15,16 | -0,13 | 35 28,40 | | | |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | | | | -0.26 | 35 24,73 | | 22,37 | |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 30 | | | | | 35 44,33 | 7,74 | | |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | | | | | | | |] |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | 6 59 25,3 | 49 48,16 | 47,87 | -0,29 | | | <u>-</u> | i |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | 16 10 22 2 | 15 1 97 46 | 27 17 | _ 0.90 | 104 05 40 40 | a - a i | | |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | | | | | | | | |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | May 1 | 12 11 35.7 | | | -0,45 | | | | |
| 3 3 8,3 47 56,67 56,42 -0.25 33 36,82 59,80 22,98 4 11 58 54,6 48 39,01 38,68 -0,33 32 17,72 41,39 23,67 11 29 19,9 46 35,43 34,94 -0,49 23 19,44 42,22 22,78 12 25 6,6 46 17,91 17,42 -0,49 22 4,95 26,81 21,86 14 16 40.0 45 43,12 42,14 -0,98 -0,60 -0,60 -0,60 -0,60 -0,60 -0,60 -0,60 -0,60 -0,60 -0,94 -0,98 -0,94 -0,98 -0,94 -0,98 -0,94 -0,98 -0,94 -0,98 -0,94 -0,98 -0,94 -0,98 -0,98 -0,94 -0,98 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> | | | | | | | | | |
| 4 11 58 54,6 48 39,01 38,68 -0,33 32 17,72 41,39 23,67 11 29 19,9 46 35,43 34,94 -0,49 23 19,44 42,22 22,78 12 25 6,6 46 17,91 17,42 -0,49 22 4,95 26,81 21,86 14 16 40,0 45 43,12 42,14 -0,98 -0,60 -0,60 -0,60 -0,60 -0,60 -0,60 -0,60 -0,60 -0,94 1 38,44 58,32 19,88 July 11 7 18 13,1 35 17,05 16,77 -0,28 102 42 43,60 3,22 19,62 | | | 47 56.67 | | | | | | • |
| 11 29 19,9 46 35,43 34,94 —0,49 23 19,44 42,22 22,78 12 25 6,6 46 17,91 17,42 —0,49 22 4,95 26,81 21,86 14 16 40,0 45 43,12 42,14 —0,98 —0,60 15 12 27 7 45 25,98 25,38 —0,60 ————————————————————————————————— | | | 48 39.01 | | | | | | |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | | 46 35,43 | | -0.49 | | | | |
| 14 | | | | | -0,49 | | | | Ì |
| 15 12 27 7 45 25,98 25,38 -0,60 -1 38,44 58,32 19,88 31 7 18 13,1 35 17,05 16,77 -0,28 102 42 43,60 3,22 19,62 | 14 | 16 40,0 | | | -0.98 | | | | |
| 30 10 9 26,3 41 23,17 22,23 —0,94 1 38,44 58,32 19,88 July 11 7 18 13,1 35 17,05 16,77 —0,28 102 42 43,60 3,22 19,62 | | | 45 25,98 | 25,38 | -0,60 | | | | |
| July 11 7 18 13,1 35 17,05 16,77 -0,28 102 42 43,60 3,22 19,62 | | | 41 23,17 | 22,23 | 0,94 | 1 38,44 | 58,32 | 19,88 | |
| | | | | | | 102 42 43,60 | | | |
| Aug. 0 0 29 05,4 37 3,82 3,12 -0,70 102 58 55,10 15,56 20,46 | Aug. 8 | 5 29 53,4 | 37 3,82 | 3,12 | -0,70 | 102 58 55,10 | 15,56 | 20,46 | |

Apparent, Right Ascension and North Polar Distance of Georgian, compared with the interpolated place from the Nautical Almanac.

| 183 | 6 | Madras Mean Time of Observation. | | fron | A. R. from Observation. | | Error of N. A. | N. F fro Observ | | N. P. D. from N. A. | Error of N. A. | REMARKS. |
|------|----|--|------|-------|-------------------------|-------|----------------------|-----------------------|---------|---------------------------|----------------------|---|
| 1 | | | | h. m. | s. | " | 11 | 0 / | ., | " | " | |
| Sep. | 16 | 10 33 | 18,2 | 22 16 | 0,62 | 4,23 | +3,61 | 101 37 | 29,65 | 21,93 | 7,72 | |
| | 23 | | 51,0 | 15 | 5,11 | 8,76 | 3,65 | | 34,57 | 26,20 | 8,37 | |
| Oct. | 1 | 9 32 | 26,9 | 14 | 7,93 | 11,49 | 3,56 | 47 | | 36,12 | 7,05 | |
| | 3 | | | | 54,96 | 57,39 | 2,43 | 48 | 53,13 | 46,28 | 6,85 | |
| | 6 | 12 | | | 35,99 | 39,73 | 3,74 | 50 | 32,85 | 25,72 | 7,13 | |
| | 7 | 8 | 14,2 | | 30,22 | 33,79 | 3,57 | 51 | | 57,20 | 5,20 | |
| | 8 | 4 | 11,3 | 13 9 | 24,49 | 28,03 | 3,54 | 51 | 33,63 | 27,78 | 5,85 | |
| | 10 | 8 56 | | | 13,40 | 16,83 | 3,43 | 52 | 35,21 | 26,44 | 8,77 | |
| ļ | 11 | 52 | 7,9 | | 7.90 | 11,48 | $3,\!58$ | 53 | 3,26 | 54,52 | 8,74 | 1 to 1 to 1 to 1 to 1 to 1 to 1 to 1 to |
| | 12 | 48 | 6,4 | 13 | 2,60 | 6,30 | 3,70 | 53 | 29,29 | 21,70 | 7,59 | |
| | 13 | 44 | | | 57,72 | 1,26 | $3,\!54$ | 53 | 55,54 | 47,88 | 7,66 | |
| | 14 | 40 | | 12 8 | 52,90 | 56,39 | 3,49 | 54 | 21,03 | 13,06 | 7,97 | N |
| | 15 | 36 | 4,8 | 12 | 48,43 | 51,68 | $3,\!25$ | 54 | 44,75 | 37,37 | 7,38 | |
| 183 | 37 | | | | | | | | | | | |
| Aug. | 28 | 12 11 | | 22 34 | 28,67 | 32,89 | +4,22 | 99 51 | 42,94 | 27,19 | [-15,75] | |
| | 29 | 3 | 18,0 | 22 34 | 19,78 | 23,92 | 4,14 | 52 | 37,60 | 20,30 | 17,30 | · |
| Sep. | 13 | 11 2 | 5,5 | 32 | 6,16 | 10,41 | 4,25 | 100 5 | 36,65 | 21,10 | 15,55 | |
| 1 | 14 | 10 58 | 1,0 | 31 (| 57,58 | 1,81 | 4,23 | . 6 | 26,69 | 10,88 | 15,81 | |
| | 21 | 29 | 31,7 | 30 8 | 59,38 | 3,33 | 3,95 | 12 | 3,89 | 47,80 | 16,09 | |
| | 22 | 25 | 27,9 | | 51,50 | 55,27 | 3,77 | 12 | 49,62 | 33,96 | 15,66 | |
| 1 | 23 | 21 | 24,0 | 30 - | 43,32 | 47,29 | 3,97 | 1: | 38,22 | 19,62 | 18,60 | |
| 1 | 24 | 17 | 20,3 | 30 | 35,38 | 39,30 | 3,92 | 1. | 1 20,42 | | 15,64 | |
| | 27 | 5 | 9,0 | | 12,10 | 16,14 | 4,04 |]](| 33,32 | 16,26 | 17,06 | |

Comparison of the Observed Right Ascension and North Polar Distance of the Moon, with the interpolated place from the Nautical Almanac.

| 1836 | Madras Mean Time. | Limb Observed. | Observed A. R. of ")'s Centre. | A. R. from N. A. | | N. or S. Limb. | Observed N. P. D. of J's Centre. | N. P. D. from N. A. | Error of Tables. | Remarks. |
|--|--------------------------------------|-------------------------------------|--|--|--|----------------------------------|---|---|---|----------|
| Jan. 2 3 25 26 27 28 31 Feb. 1 2 26 27 28 29 Mar. 1 2 3 25 | 11 0 38,8 11 49 4,4 12 38 22,4 | 1 Cent. 1 1 1 1 1 | h. m. s. 5 46 59,37 6 42 18,46 2 7 14,75 2 55 0,18 3 43 21,21 4 33 52,99 7 17 35,39 8 13 29,73 9 8 19,24 5 59 10,51 6 54 38,38 7 50 33,56 8 45 54,09 9 39 56,50 10 32 25,39 11 23 40,54 6 31 20,65 | s. 58,73 18,03 14,92 0,48 21,09 52,66 34,73 29,17 18,91 10,45 38,51 32,95 53,31 55,57 24,61 39,90 20,19 | + ,13 - ,61 - ,78 - ,93 - ,78 - ,64 | N. S. N. N. N. N. N. N. N. N. N. | 64 6 46,9 65 30 40,8 79 8 —— 74 35 —— 69 55 —— 66 48 21,4 63 47 22,0 65 27 19,2 68 25 32,4 63 32 29,2 63 19 7,6 64 27 45,0 66 57 28,7 70 42 3,9 75 30 19,9 81 8 28,2 63 1 6,8 | 35,2 35,9 7,5 43,0 28,3 57,9 14,9 27,1 | $\begin{bmatrix} -5,0\\ -1,1 \end{bmatrix}$ | |

Comparison of the Observed Right Ascension and North Polar Distance of the Moon continued.

| 183 | 6 | Madras Mean Time. | Limb Observed. | Observed A. R. of D's Centre. | A. R. from N. A. | Error of 5 Tables. | Observed N. P. D of D's Centre | of from | Error of Tables. | Remarks. |
|----------------------|----------------------------|--|--|---|---|---|---|---|--|-----------|
| Mar. | 27 | h m. s. 7 9 30,7 8 0 33,2 8 50 35.2 | 1 1 1 | h. m. s. 7 26 45,56 8 21 52,84 9 15 59,88 | s. 45,74 53,11 59,53 | $\begin{vmatrix} s. \\ +0.18 \\ + .27 \end{vmatrix}$ N | N. 63 35 38 N. 65 31 14 N. 68 43 42 | ,3 7,6 | $ \begin{array}{ c c c c c } \hline & 2,5 \\ & 6,7 \\ & 4,1 \end{array} $ | |
| liva A | 28 29 30 31 | 8 50 35,2 9 39 20,5 10 26 53,3 11 13 49,3 12 2 9,3 | | 10 8 47.36 11 0 23,89 11 51 24,81 | 46,42 23,25 24,29 44,54 | - ,94 N - ,64 N - ,52 N | N. 73 5 16 N. 78 24 41 N. 84 27 46 N. 90 57 27 | 0 14,2 ,8 40,0 ,8 43,0 | | |
| April | 24 26 27 28 | 6 41 35, 8 16 52,9 9 3 11, 9 49 36,8 | 1 1 1 1 | 4 53 1,31 10 36 29,49 11 26 51,58 12 17 21,58 | 1,10 29,28 50,96 21,16 | $\begin{vmatrix} - & ,21 & 1 \\ - & ,21 & 1 \\ - & ,62 & 1 \end{vmatrix}$ | N. 67 4 24 N. 75 43 26 N. 81 23 26 N. 87 40 2 | $egin{array}{c c} ,6 & 22,6 \\ ,6 & 25,2 \\ ,2 & 1,1 \\ \end{array}$ | $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | |
| May | 29 30 | 10 37 18,4 11 27 25,4 8 25 39, 10 4 37, | 1 1 0 1 3 1 | 13 9 6,85 14 3 21,86 12 43 33,97 14 30 45,25 | 6,59 21,87 33,86 44,96 | $\begin{vmatrix} - & .26 \\ + & .01 \\ - & .11 \\ - & .29 \end{vmatrix}$ | N. 94 16 18 N. 100 59 31 N. 91 1 44 N. 103 52 9 | ,1 35,1 ,2 43,7 ,6 11,7 | $\begin{vmatrix} + 4.0 \\ - 0.5 \\ + 2.1 \end{vmatrix}$ | |
| July Aug. Sep. | 21 18 19 | 10 35 18, 7 15 25, 6 10 7, 7 12 46, | 1 1 3 1 9 1 | 18 54 15,57 17 16 17,22 18 1 11,79 19 7 58,78 | 15,50 17,21 11,70 58,87 | - ,01 M - ,09 M + ,09 S | | ,6 22,9 ,3 35,2 ,6 9,6 | $\begin{bmatrix} -2.7 \\ -1.1 \\ 0.0 \end{bmatrix}$ | |
| Oct. | 20 22 23 17 | 8 14 24,1 10 7 26,1 10 58 6,1 5 8 37, | 7 1 6 1 8 1 | 20 13 42,79 22 14 51,33 23 9 34,23 19 54 1,84 | 42,76 51,80 34,64 1,91 | + ,41 S + ,07 S | 3. 106 7 14 3. 100 6 47 3. 116 2 34 | ,0 3,7 ,9 36,2 ,1 34,1 | $ \begin{array}{c c} -10,3 \\ -11,7 \\ 0,0 \end{array} $ | |
| • | 18 19 20 21 | 7 7 17, 8 1 49, 8 52 20, 9 39 44, | 3 1 5 1 0 1 | 20 56 46,03 21 55 20,36 22 49 54,74 23 41 20,27 | 46,20 20,64 54,68 20,47 | $\begin{vmatrix} + & ,28 & 9 \\ - & ,06 & 9 \end{vmatrix}$ | 3. 108 6 2 3. 102 28 12 3. 96 16 32 | 57,2 3 6,8 0 25,6 | - 5,3 - 5,5 - 6,4 | |
| Nov. | 22 17 18 22 23 | 10 25 7, 7 37 48,6 3 22 54, 11 21 41,3 12 12 28, | 3 1 1 1 3 1 | 0 30 46,95 23 25 32,91 0 14 40,50 3 29 45,94 4 22 28,07 | 46,97 33,03 40,53 45,68 27,28 | $\begin{vmatrix} + & 12 & 8 \\ + & 03 & 8 \\ - & 26 & 1 \end{vmatrix}$ | 6. 98 15 1 6. 91 58 54 | ,9 0,5 ,9 51,1 ,5 13,9 | -1,4 $-3,8$ $+11,4$ | |
| Dec. | | 7 5 57, 7 49 25, 8 33 18, | 4 1 3 1 6 1 | 0 47 54,87 1 35 25,93 2 23 25,05 3 12 48,90 | 54,56 26,02 24,90 48,78 | $\begin{vmatrix} - & ,31 \\ + & ,09 \\ - & ,15 \end{vmatrix}$ S | 3. 87 30 7 3. 81 28 23 | $egin{array}{c c} ,8 & 4,0 \\ ,6 & 18,5 \\ ,6 & 27,6 \\ \hline \end{array}$ | -3,6 $-5,1$ | |
| 185 Jan. | 20 21 37 | 10 5 58, 10 55 20, | 7 1 5 1 | 4 4 13,34 4 57 42,05 4 40 18,98 | 12,76 41,47 19,22 | ,58 S ,58 N | 6. 67 7 29 N. 64 17 12 S. 64 52 — | 7 25,5 1 11,1 | $\begin{vmatrix} -4,2\\ -1,0 \end{vmatrix}$ | First obs |
| | 18 19 20 21 | 9 42 6, 10 33 19, 11 24 16, | $ \begin{array}{c cccc} 0 & 1 \\ 6 & 1 \\ \hline 1 & 1 \end{array} $ | 5 34 42,28 6 29 58,78 7 25 0,20 | 41,53 58,09 59,46 39,59 | - ,75 N - ,69 N - ,74 N | N. 63 0 4 N. 62 24 30 N. 63 11 1 N. 65 15 43 | 6 4,4 5 31,6 3 1,3 | +1,1 | at Tran- |
| Feb. | | 5 58 29, 6 47 16, 7 37 27, | $egin{array}{c c} 5 & 1 \\ 4 & 1 \\ 3 & 1 \end{array}$ | 3 29 5,36 4 21 51,26 5 16 7,48 6 11 20,74 | 5,05 51,18 7,47 | - ,31 S - ,08 S - ,01 S | 6. 69 13 13 6. 65 38 27 6. 63 17 21 N 62 16 32 | 9 12,0 8 27 6 4 25'6 | $\begin{bmatrix} -1,9\\ -0,2\\ +4,2 \end{bmatrix}$ | |

Comparison of the Observed Right Ascension and North Polar Distance of the Moon continued.

| h. m. s. h m. s. s. s. o'' " | l l |
|--|----------------------------------|
| Feb. 17 10 9 47,3 1 8 0 42,03 41,23 -0,80 N. 64 19 52,2 54,8 + 18 10 57 59,8 1 8 52 57,02 56,03 -0,99 N. 67 14 26,8 33,3 + 18 10 57 59,8 1 8 52 57,02 56,03 -0,99 N. 67 14 26,8 33,3 + 18 10 57 59,8 1 8 52 57,02 56,03 -0,99 N. 67 14 26,8 33,3 + 18 10 57 59,8 10 57 59,8 10 57 59,8 10 57 59,8 10 57 59,8 10 57 59,8 10 57 59,8 10 57 59,8 10 57 59,8 10 57 59, | - 6,5 |
| | - 1,2 - 3,3 - 3,3 |
| 18 9 39 37,2 1 9 24 43,98 43,42 -0,56 N. 69 31 2,7 7,1 + 19 10 24 12,7 1 10 13 22,10 21,47 -0,63 N. 74 3 37,1 43,7 + 20 11 7 8,8 1 11 0 20,55 19,74 -0,81 N. 79 19 49,5 53,0 + 21 11 50 11,2 Cent. 11 46 25,71 25,25 -0,46 N. 85 7 34,6 33,8 - | - 6,6 - 3,5 - 0,8 |
| | |
| 19 11 8 56,4 1 13 0 25,89 25,54 -0,35 N. 94 53 31,2 34,0 + 20 11 54 58,4 Cent. 13 49 30,37 30,13 -0,24 N. 101 3 51,6 58,5 + May 15 8 19 29,3 1 11 53 0.02 59,85 -0,17 N. 85 58 56,8 59,5 + 16 9 1 25,6 1 12 39 1,46 0,90 -0 56 N. 92 5 38,7 39,7 + | - 6,9 - 2,7 |
| 17 9 45 9.5 1 13 26 49.63 49.28 -0.35 N. 98 17 54.1 58.9 + 23 15 31 19.2 2 19 35 20.52 19.81 -0.71 N. 116 50 31.4 27.2 -24 16 32 30.4 2 20 40 39.71 39.79 +0.08 N. 113 42 21.6 20.4 -24 40.7 20.4 -25 20.4 - | - 4,2 |
| 13 7 36 42,6 1 13 4 28,07 27,65 -0,42 N. 95 35 16,3 19,1 + 14 8 21 9,4 1 13 53 0,74 0,17 -0.57 N. 101 36 45,3 50,2 + | - 2,8 - 4,9 - 7,6 - 1,1 |
| 23 17 6 44,8 2 23 13 23,90 23,61 -0,29 N. 98 49 16,2 13,2 -0,29 N. 92 9 9,5 56,5 -0,29 N. 92 9 9,5 56,5 -0,29 N. 92 9 16 36,9 30,8 -0,31 N. 10 10 32,4 36,6 + | - 3,0 -13,0 - 6,1 |
| 14 8 44 2,5 1 16 14 21 48 21,01 —0.47 N. 114 24 45,7 49,3 + 15 9 45 12,7 1 17 19 44,06 43,79 —0.27 N. 117 10 38,9 45,9 + 16 10 50 48,2 1 18 29 25,21 25,01 —0,20 S. 117 58 20,3 26,9 + | - 3,6 - 7,0 - 6,6 |
| 11 7 28 12,2 1 16 48 42,95 42,95 0.00 N. 116 18 50,5 55,1 + | - 3,8 - 6,4 - 4,6 |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 1,5 |
| | - 5,4 - 8,3 - 1,9 |
| 14 12 11 52,7 2 23 44 54,88 54,89 +0,01 N. 94 17 35,6 26,5 — 15 13 1 52,5 2 0 39 0,32 0,37 +0,05 N. 87 1 49,0 37,8 — 16 13 51 13,6 2 1 32 26,80 26,80 0,00 N. 80 5 58,0 43,6 — | - 9,1 -11,2 -14,4 - 5,9 |

Comparison of the Observed Right Ascension and North Polar Distance of the Moon continued.

On looking over the observations of the last seven years; there have I find been a few observations of the Transit of both limbs of the Moon over the Meridian, which, in the former volumes of the Madras Results I had omitted; they are as follows.

| Date. | | Madras Mean Time. | Sidereal Time of ('s Diam. passing. |
|-------------------|---------------|----------------------|--|
| 1831 | | h. m. s. | m. s. |
| February | 26 | 12 17 48,7 | 2 7,48 |
| April | 26 | 11 53 47,9 | 3,06 |
| May | 26 | 12 5 34,1 | 7,80 |
| September 1833 | 21 | 11 51 30,6 | 12,48 |
| May | 3 | 11 49 32,2 | 14,26 |
| July | 1 | 11 50 39,6 | 15,70 |
| 1834 | | | |
| February | 23 | 12 15 27,8 | 23,48 |
| 1835 | | | |
| March | 14 | 12 9 11,4 | 18,16 |
| April | 13 | 12 30 47,8 | 20,02 |
| May | 12 | 12 6 2,7 | 26,62 |
| June | 10 | 11 46 29,1 | 31,68 |
| 1836 | | | |
| February | 2 | 12 20 17,1 | 15,68 |
| April | $\frac{2}{1}$ | 12 2 9,2 | 13,16 |
| 1837 | | • | <u> </u> |
| January | 21 | 12 14 45,5 | 14,70 |
| March | 21 | 11 50 11,2 | 5,32 |
| April | 20 | 11 54 58,4 | 12,08 |

In addition to the above,—observation of the Moon, and of several Stars culminating near to her (Moon culminating Stars), have been made, as follows.

Moon Culminating Stars.

| 1830 | 6. | Nam | ES. | | erved nsit. | 1836. | Nami | ES. | Observed Transit, |
|--------|------|-----------------|------------|------------------------------|----------------------|------------|------------------|-----------|--------------------------------------|
| Jar | 1. 2 | ζ Tauri | | h. m. 5 29 5 44 | s. 13,01 23,67 | March 2 | Moon n Leonis | 1st Limb | h m. s. 10 29 33,14 11 5 29,57 |
| 1 | | Moon | 1st Limb | 5 47 | 15,50 | | t | | 11 13 35,05 |
| | | μ Geminor. | | 6 14 | 24,52 | 3 | n Leonis | | 11 5 24,89 |
| | 3 | μ | | 6 14 | 25,56 | | . — | | 11 13 30,22 |
| Ì | | Moon | 1st Limb | 6 42 | 35,02 | | Moon | 2nd Limb | 11 22 50,81 |
| | 25 | Moon | 1st Limb | 2 7 | 8,55 | 25 | Moon | 1st Limb | 6 29 4,45 |
| | | 38 Arietis | | 2 35 | 55,38 | | δ Geminor. | | 7 9 10,07 |
| 1 | 00 | 77 | | 2 40 | 2,41 | 0.0 | δ | | 7 15 22,75 |
| } | 26 | 38 | | 2 35 2 39 | 47,93 54,60 | 26 | 0 | | 7 9 6,03 |
| | | $\pi - M_{00n}$ | 1st Limb | 2 53 | 44,84 | | Moon | Int Timb | 7 14 18,59 7 24 25.30 |
| Ì | | η Tauri | 15C LIMO | 3 37 | 30,60 | | 6 Cancri | 1st Limb | |
| 1 | 27 | η | | 3 37 | 24,78 | | λ — | | 7 52 12,86 8 9 33,42 |
| | ~ ' | Moon | 1st Limb | | 58,60 | 27 | 6 — | | 7 52 8,63 |
| | | ε Tauri | TOU ENTINO | 4 18 | 42,89 | ~. | 1 x | | 8 9 29,20 |
| | 28 | Si | | 4 13 | 7,20 | 10 July 20 | Moon | lst Limb | |
| l l | | ε | | 4 18 | 40,86 | | ξ Cancri | | 8 58 37,92 |
| | [| Moon | 1st Limb | 4 32 | 26,88 | | <i>q</i> — | | 9 8 32,11 |
| | 31 | τ Geminor. | | 7 0 | 16,26 | 28 | Moon | 1st Limb | 9 13 32,27 |
| l i | 1 | δ — | | 7 9 | 54,75 | 29 | η Leonis | | 9 56 57,56 |
| | 1 | \mathbf{Moon} | 1st Limb | 7 16 | 3,47 | | Moon | 1st Limb | 10 6 16,16 |
| | ł | ϕ Geminor. | | 7 43 | 2,67 | | γ Leonis | | 10 9 29,95 |
| | - 1 | 6 Cancri | | 7 53 | 1,65 | 30 | k | | 10 36 13,85 |
| Feb. | 1 | φ Geminor. | | 7 43 | 0,29 | | Moon | lst Limb | |
| | | 6 Cancri | | 7 52 | 59,29 | , i | v Virginis | | 11 35 55,71 |
| İ | i | Moon | 1st Limb | 8 11 | 55,77 | | b — | | 11 50 2,89 |
| | | ξ Cancri | | 8 <i>5</i> 9 8 <i>5</i> 8 | 28,24 | 31 | υ | | 11 35 50,90 |
| | 2 | ξ —— Moon | Cent. | 8 58 9 7 | 25,24 49,79 | | Moon | 1st Limb | 11 48 45,11 |
| İ | 26 | c Tauri | Cent. | 5 41 | 38,08 | | b Virginis | | 11 49 58,01 |
| | 20 | Moon | lst Limb | | 40,18 | | γ¹ | | 12 10 26,53 12 31 46,41 |
| | 1 | E Geminor. | ISC DIMIO | 6 32 | 26,57 | April 1 | 6 | | 12 10 21,61 |
| | 27 | · Common | | 6 32 | 22,59 | | γ1 | | 12 31 41,49 |
| | - | Moon | 1st Limb | 6 52 | 3,55 | | Moon | Cent. | 12 40 33,93 |
| | 28 | φ Geminor. | 44.4 | 7 41 | 55,38 | | a Virginis | | 13 14 53,68 |
| | I | Moon | 1st Limb | 7 47 | 54,28 | 100 | m — | | 13 31 20,80 |
| | I | n Caneri | | 8 21 | 41,19 | 24 | Moon | 1st Limb | 8 53 33,70 |
| | İ | γ — | | 8 23 | 15,22 | | λ Leonis | | 9 23 59,84 |
| | 29 | η —— | , j | 8 21 | 36,24 | | ψ —— | | 9 36 26,37 |
| | 1 | γ | | 8 32 | 10,50 | 26 | γ — | | 10 12 44,47 |
| | ļ | Moon | 1st Limb | 8 43 | 10,41 | | ρ | | 10 23 59,39 |
| 7.5 | | λ Leonis | | 9 20 | 44,34 | | Moon | 1st Limb | 10 37 14,02 |
| March | 1 | λ | 7 . 7 . 7 | 9 20 | 39,32 | 27 | σ Leonis | | 11 14 35,98 |
| | 1 | Moon | 1st Limb | 9 37 | 8,50 | | Man | 7-4 7 - 1 | 11 21 25,43 |
| | 9 | y Leonis | 1 | 10 9 | 13,46 | | Moon | 1st Limb | 11 27 42,33 |
| | 2 | ρ —— | 4 | 10 23 10 9 | 28,33 | | o Virginis | | 11 58 46,87 |
| | 2 | γ | | 10 9 | 8,38 23,21 | 28 | " — | | 12 13 26,73 |
| | | ρ —— | 1 | IV AA | 20,211 | ۵۵ م | | | 11 58 52,81 |

| | 1836 | 3 | Names. | | Observed Transit. | 1836 | Names. | | Observed Transit. |
|--------------|-------|-----|---------------|---------------------|----------------------------|-----------------------|--|-------------------|-------------------------|
| - | | | | | h. m. s. | | The second secon | - i | m h . s . |
| | April | 28 | η Virginis | | 12 13 32,73 | Oct. 20 | δ Aquarii | | 22 44 43,27 |
| | K | | Moon | 1st Limb | 12 18 18,26 | | | Limb | 22 47 33,67 |
| | | | δ Virginis | | 12 49 22,75 | | n Piscium | · [| 23 38 17,48 |
| | | | θ | | 13 3 30,02 | 21 | ψ^3 Aquarii | | 23 9 11,17 |
| | | 29 | δ —— | İ | 12 49 28,55 | | | Limb | 23 38 59,61 |
| l | | | 0 | | 13 3 35,85 | 22 | t Piscium | | 0 15 44,06 |
| l | | | Moon | 1st Limb | 13 10 8,52 | | Moon 1st | Limb | 0 28 25,60 |
| | | | k Virginis | | 14 6 17,56 | · | e Piscium | | 0 58 39,88 |
| | | | ι | | 14 9 33,62 | Nov. 17 | φ Aquarii | | 23 4 46,89 |
| l | | 30 | Moon | 1st Limb | 14 4 27,03 | | ψ³ | 1 | 23 9 22,71 |
| 1 | | | ι Virginis | i | 14 9 38,84 | | | Limb | 23 23 24,05 |
| 1 | | | α² Libræ | | 14 44 2,77 | | t Piscium | | 0 15 57,44 |
| | | | ξ2 | | 14 50 6,46 | 18 | Moon 1st | Limb | 0 12 36,69 |
| | May | 26 | γ¹ Virginis | | 12 32 50,72 | | m Ceti | | 0 43 39,31 |
| 1 | | | Moon | 1st Limb | 12 41 58,73 | The State of the same | ε Piscium | _ | 0 53 27,76 |
| TOTAL STREET | | 28 | k Virginis | | 14 3 30,03 | 22 | | Limb | • |
| | | | λ — | | 14 9 35,47 | | A ¹ Tauri | | 3 54 8,14 |
| ĺ | | | Moon | 1st Limb | 14 28 56,56 | | ω² | ĺ | 4 6 47,09 |
| | | | ι¹ Libræ | | 15 2 13,83 | 23 | A ¹ Tauri | ļ | 3 54 9,23 |
| 1 | | | γ¹ — | | 15 25 42,39 | | ω² | | 4 6 48,21 |
| ļ | July | 26 | λ Sagittarii | | 18 17 10,77 | | | Limb | 4 23 38,42 |
| l | | | σ — | | 18 44 25,29 | Dec. 16 | m Ceti | . . | 0 43 42,30 |
| | 7 | | Moon | lst Limb | 18 52 17,82 | | | Limb | 0 45 54,53 |
| I | | | 59 Sagittarii | | 19 46 12,30 | 17 | μ Piscium | - 3 | 1 20 35,09 |
| 1 | | | c | | 19 51 53,71 | i! | γ — | T. 1 | 1 31 53,72 |
| l | Aug. | 21 | θ Ophiuchi | | 17 11 38,30 | | | Limb | 1 33 20,55 |
| 1 | | | Moon | 1st Limb | 17 14 44,29 | | ξ¹ Ceti ξ² —— | | 2 3 18,59 |
| Standard | а | 10 | λ Sagittarii | | 18 17 33,19 | 10 | ξ ² | | 2 18 26,47 |
| | Sep. | 18 | γ² | 7 . 4 Y * 1. | 17 55 20,02 17 59 0,75 | 18 | ξ2 | ' | 2 3 14,95 2 18 22,81 |
| | | 19 | Moon | 1st Limb | 18 45 8,33 | | 1 - | Limb | 2 21 15,27 |
| | | 19 | σ Sagittarii | | 18 52 13,07 | | ε Arietis | Limb | 2 48 47,25 |
| | | | Moon | 1st Limb | | 19 | 5 | | 3 1 8,78 |
| 1 | | 20 | Moon | 1st Limb | | | 1 | Limb | 3 10 34,98 |
| 1 | | 22 | , Aquarii | 15t Limb | 21 57 31,05 | 20 | A ¹ Tauri | | 3 53 50,16 |
| | | ~~ | θ | | 22 8 6,97 | | | Limb | 3 1 54,25 |
| | | | Moon | 1st Limb | 22 13 38,00 | | ω ² Tauri | | 4 6 29,17 |
| | | 23 | | 100 2011110 | 23 45 50,72 | 21 | g | | 4 31 10,42 |
| - | 74.0 | | φ | | 23 5 43,78 |] | Moon 1st | Limb | 4 55 17,94 |
| - | | | Moon | lst Limb | | 1837 | | | |
| · | Oct. | 17 | hº Sagittarii | | 19 25 31,58 | Jan. 17 | Moon 1st | Limb | 4 40 24,70 |
| | | | c — | | 19 51 22,53 | 18 | β Tauri | | 5 17 1,95 |
| Ì | | | Moon | 1st Limb | | | ζ | | 5 28 56,52 |
| - | | | ψ Capricorni | | 20 35 11,38 | | | Limb | 5 34 37,42 |
| | | | η | | 20 54 52,59 | 19 | k Aurigæ | | 6 5 58,19 |
| | | 18 | | | 20 35 11,16 | | μ Geminor. | | 6 14 4,46 |
| | | | Moon | 1st Limb | | | | Limb | 6 29 50,14 |
| | | | 8 Capricorni | 1.0 | 21 36 47,84 | | δ Geminor. | | 7 11 21,60 |
| | { | 19 | ' γ | | 21 29 47,86 | | a ² —— | | 7 25 10,10 |
| | | | 7.7 | 7 7 1 | 21 36 47,08 | 20 | 8 | т | 7 11 18,54 |
| | | | Moon | 1st Limb | | | | Limb | 7 24 48,93 |
| | | 100 | τ² Aquarii | grader or on the or | 22 39 42,49 22 44 44,72 | 21 | 6 Cancri | 0-4 | 7 54 25,57 |
| | | 20 | | | 22 44 44,72 22 39 40,93 | 21 | Moon ρ ⁴ Cancri | Cent. | 8 19 32,79 |
| | | 20 | | | ~~ 05 40,55 | | P Cantil | | 8 46 46,70 9 0 52.11 |
| | | | | | | 11 | 1 5 | and Statement Co. | 9 0 52,11 |

| 1837 | Names. | Observed Transit. | 1837 | Names. | Observed Transit. |
|---------|-----------------------|----------------------------|----------|--|-----------------------------|
| Feb. 13 | ω² Tauri | h. m. s. 4 8 18,97 | Mar. 27 | a Scorpii | h. m. s. 16 17 44,87 |
| 4 | ν¹ | 4 17 9,52 | | 7 | 16 24 4,09 |
| | Moon 1st Limb | | | Moon 2nd Limb | |
| | n Tauri | 5 10 5,32 | | p Sagittarii | 17 35 37,07 |
| 14 | c —— | 4 53 57,88 | 28 | p | 17 35 31,34 |
| | n —— | 5 10 5,82 | | γ² | 17 53 33,06 |
| | Moon 1st Limb | 5 15 37,09 | | Moon 2nd Limb | 18 4 12,64 |
| | c Tauri | 5 43 42,76 | April 16 | Moon 1st Limb | 10 39 5,00 |
| 15 | n Geminor. | 6 5 39,08 | | n Leonis | 11 6 12,96 |
| . 13 | σ Tauri η Geminor. | 5 43 42,05 6 5 39.37 | 10 | τ | 11 18 26,08 |
| | Moon 1st Limb | 6 5 39,37 6 10 50,37 | 18 | O Virginis | 11 55 43,62 |
| | ε Geminor. | 6 34 31,45 | | Moon 1st Limb | 12 11 15,79 |
| 17 | β —— | 7 35 57,51 | | γ Virginis δ —— | 12 32 13,62 |
| | Φ | 7 44 8,44 | 19 | γ¹ | 12 46 13,03 12 32 11,79 |
| | Moon 1st Limb | 8 0 13,00 | • | δ | 12 32 11,79 |
| | δ Cancri | 8 36 2,36 | | Moon 1st Limb | 12 58 9,91 |
| | ρ4 | 8 46 30,95 | | α Virginis | 13 15 24,48 |
| 18 | δ —— | 8 36 2,18 | | ζ | 13 25 11,10 |
| | ρ4 | 8 46 30,55 | 20 | α | 13 15 22,97 |
| | Moon 1st Limb | 8 52 29,17 | | ζ | 13 25 9,92 |
| | λ Leonis | 9 23 2,01 | | Moon Cent. | 13 48 14,95 |
| ** | 0 | 9 33 4,26 | | λ Virginis | 14 9 3,90 |
| 19 | λ —— | 9 23 2,24 | 25 | Moon 2nd Limb | 14 |
| | NATura Lat Vinale | 9 33 4,35 | May 15 | ξι Virginis | 11 36 37,63 |
| | Moon 1st Limb | 9 42 30,76 | | β | 11 41 57,00 |
| 0.1 | γ Leonis | 10 11 36,36 10 57 15,45 | 16 | Moon 1st Limb | 11 51 42,59 |
| 21 | χ | 10 57 15,45 11 16 4,41 | 16 | η Virginis | 12 11 15,91 |
| | Moon 2nd Limb | | | $egin{array}{ll} { m Moon} & { m Ist\ Limb} \\ { m 	heta\ Virginis} \end{array}$ | 12 37 40,40 |
| | o Virginis | 11 57 33,16 | | a | 13 1 12,96 |
| Mar. 16 | Moon 1st Limb | 7 39 57,32 | 17 | θ | 13 16 18,64 1 13 1 10,30 |
| 17 | λ Cancri | 8 9 52,44 | | α | 13 16 16,25 |
| | φ ² | 8 15 57,80 | | Moon 1st Limb | 13 25 24,35 |
| | Moon 1st Limb | 8 31 53,89 | | k Virginis | 14 3 52,11 |
| | ξ Cancri | 8 59 1,28 | | λ | 14 9 57,23 |
| na sine | q | 9 8 54,95 | 23 | h ² Sagittarii | 19 26 10,72 |
| 18 | ξ | 8 58 57,76 | | Moon 2nd Limb | 19 35 54,80 |
| | q — | 9 8 51,64 | 24 | ψ Capricorni | 20 35 46,51 |
| 19 | Moon 1st Limb | 9 22 38,51 | T 70 | Moon 2nd Limb | 20 41 9,58 |
| 19 | π Leonis | 9 50 30,56 | June 12 | Moon 1st Limb | 12 15 52,27 |
| | Moon 1st Limb | 9 58 35,96 | | κ Virginis | 12 29 16,90 |
| | k Leonis | 10 11 13,53 10 36 41,88 | 13 | δ ———————————————————————————————————— | 12 45 50,32 |
| | c —— | 10 50 41,88 | 10 | Moon 1st Limb | 13 48,38 |
| 20 | | 10 36 37,58 | 14 | α Virginis | 13 15 0,38 |
| | C | 10 51 8,22 | A.T. | Moon 1st Limb | 13 14 57,47 |
| | Moon 1st Limb | 10 58 8,36 | | λ Virginis | 13 50 15,90 |
| | v Leonis | 11 27 26,64 | | a ² Libræ | 14 8 38,76 |
| | β Virginis | 11 41 2,66 | 15 | λ Virginis | 14 40 13,12 14 8 35,54 |
| 21 | v Leonis | 11 27 22,94 | | Moon 1st Limb | 14 8 35,34 |
| | β Virginis | 11 41 59,06 | | y Libræ | 14 52 50,45 |
| | Moon Cent. | 11 45 11,15 | | β | 15 6 32,22 |
| | η Virginis | 12 10 20,88 | 21 | ψ Capricorni | 20 34 25,13 |

| 1837 | | Names. | Observed Transit. | 1837 | Names. | Observed Transit. |
|--------|---|----------------------------|----------------------------|---------|----------------------|--|
| | | | h. m. s. | | | h. m. s. |
| June | 21 | ζ Capricorni | 21 15 20,04 | Aug. 13 | Moon 1st Limb | 19 2 16,36 |
| A1 | 1 | Moon 2nd Limi | | 20 | o Piscium | 1 36 8,09 |
| | 00 | Aquarii | 21 55 36,10 | | γ Arietis | 1 43 56,18 |
| 1 | 23 24 | Moon 2nd Lim τ Piscium | | | Moon 2d Limb | 1 58 25,88 |
| | 24 | Moon 2nd Lim | , | 21 | ε Arietis π —— | 2 49 14,24 2 39 30,21 |
| | | Ceti | 0 10 38,41 | | Moon 2d Limb | 2 51 12,53 |
| July | 11 | a Virginis | 13 15 14,62 | | q Arietis | 3 13 59,28 |
| o a.y | | Moon 1st Lim | | | n Tauri | 3 37 5,83 |
| | | Virginis | 14 2 50,67 | 22 | g Arietis | 3 13 58,30 |
| | | λ — | 14 8 56,14 | | n Tauri | 3 37 4,87 |
| i I | 13 | a^2 Libræ | 14 40 24,09 | | Moon 2d Limb | 3 45 20,55 |
| | | 20 — | 14 53 4,61 | | v1 Tauri | 4 15 50,06 |
| | | Moon 1st Lim | b 15 12 10,60 | ∥ 23 | Moon 2d Limb | |
| i | | π Scorpii | 15 47 32,52 | Sep. 9 | λ Sagittarii | 18 16 48,50 |
| | | [ρ, | 15 54 50,36 | | Moon 1st Limb | 18 31 34,67 |
| | 14 | β^{1} | | 11 | π Sagittarii | 18 58 57,58 |
| 1 | | 1 | 15 54 26.86 | | h ² —— | 19 25 40,86 |
| 1 | | Moon 1st Lim A Ophiuchi | | 12 | ζ Capricorni | 21 16 9,59 |
| j | | θ — | 17 10 29,43 | | δ — Moon 1st Limb | 21 36 50,65 21 47 21,92 |
| | 15 | A | 17 4 37,25 | 13 | σ Aquarii | 22 20 46,81 |
| 1 | 10 | θ | 17 10 25,03 | 10 | 5 Aquain | 22 44 45,77 |
| | San, | Moon 1st Lim | | | Moon 1st Limb | 22 46 24,36 |
| 1 | | γ ² Sagittarii | 17 54 45,23 | 14 | ψ^3 Aquarii | 23 9 12,22 |
| | | δ | 18 8 58,36 | | n Piscium | 23 38 17,04 |
| | 16 | γ³ —— | 17 53 40,77 | | Moon 2d Limb | |
| | | 8 | 18 8 53,95 | | n Ceti | 0 20 26,43 |
| | | Moon 1st Lim | | | δ Piscium | 0 38 57,03 |
| 1 | ^ | τ Sagittarii | 18 55 5,88 | 15 | n Ceti | 0 20 24,07 |
| Aug. | 8 | Moon 1st Lim | | | Moon 2d Limb | |
| | | α ² Libræ 20 —— | 14 41 29,89 | | μ Piscium | 1 20 19,36 |
| | 9 | α^2 | 14 54 10,36 14 41 28,15 | 16 | ν —— | 1 31 37,50 |
| | 9 | Moon 1st Lim | | 10 | μ —— Moon 2d Limb | 1 20 16,30 |
| | | 20 Libræ | 14 54 8,74 | 11 | gi Ceti | $\begin{array}{cccc} 1 & 32 & 6,86 \\ 2 & 2 & 59,07 \end{array}$ |
| 1 | 4 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - | k Libræ | 15 32 10,20 | 1 | ν Arietis | 2 28 11,46 |
| | | b Scorpii | 15 40 47,71 | 17 | ξι Ceti | 2 2 57,53 |
| | 10 | k Libræ | 15 32 8,93 | il | Moon 2d Limb | 2 26 0,30 |
| | | b Scorpii | 15 40 46,35 | | δ Arietis | 3 0 54,49 |
| Ì | | Moon 1st Lim | | | g —— | 3 13 17,10 |
| | | a Scorpii | 16 19 0,73 | 18 | δ | 3 0 52,99 |
| 1 2 2. | 11 | 7 | 16 25 20,17 | 1 | g —- | 3 13 15,34 |
| | 11 | τ | 16 18 59,27 | | Moon 2d Limb | 3 21 7,74 |
| Ī | 5 5 6 5 7 | Moon 1st Lim | 16 25 18,69 16 47 2,86 | | A¹ Tauri | 3 53 37,56 |
| | Sept pro- | θ Ophiuchi | 17 11 34,35 | 19 | A ¹ Tauri | 4 15 7,11 |
| 1 | | γ ² Sagittarii | 17 54 55,80 | 19 | $v^1 - v^1$ | 3 53 35,70 4 14 5,41 |
| | 12 | θ Ophiuchi | 17 11 32,77 | | Moon 2d Limb | 4 14 5,41 4 17 43,20 |
| | | Moon 1st Lim | | | ν Tauri | 4 51 51 07 |
| | | γ² Sagittarii | 17 54 53,40 | . Atti | β —— | 5 14 30,80 |
| | | φ —— | 18 35 1,31 | 20 | β | 5 14 29,09 |
| | - | б —— | 18 44 42,38 | | Moon 2d Limb | 5 15 22,79 |
| | 13 | φ Sagittarii | 18 35 59,71 | | c Tauri | 5 41 34,29 |

| 183 | 37 | Names. | Observed Transit. | 1837 | Names. | Observed Transit. | |
|------|----|--|---|---------|--|---|--|
| Sep. | 21 | C Tauri k Aurigæ Moon 2d Limb | * ', ', ' | Oct. 13 | Piscium γ¹ Arietis ε Capricorni | h. m. s. 1 20 46,00 1 42 35.69 21 24 42,45 | |
| Oct. | 9 | Geminor. η Capricorni ζ —— Moon Ist Limb μ Aquarii θ —— | 21 55 41,35 | 7 | δ —— Moon lst Limb σ Aquarii λ —— σ —— | 21 34 47.74 21 57 38,79 22 18 46,53 22 40 52,00 22 18 45,02 | |
| · | 10 | θ —— Moon 1st Limb λ Aquarii | 22 42 8,91 | Dec. 14 | λ — Moon 1st Limb n Piscium α^2 Geminor. | 22 40 50,69 22 52 34,96 23 36 18,13 7 23 21,05 | |
| | 12 | $ \psi^{3} $ $ n$ Piscium $ r$ $ Moon$ 1st Limb $ *$ Piscium | 23 8 31,28 23 37 34,20 23 51 36,41 0 8 33,43 0 37 50,63 | 16 | k —— Moon 2d Limb ϕ^2 Cancri q Cancri λ Leonis | 7 33 45,12 7 51 25,51 8 16 4,23 9 8 56,45 | |
| | 13 | * * Moon 1st Limb | 0 52 29,60 0 37 50,12 0 52 29,12 | | Moon 2d Limb α Leonis γ —— | 9 21 28,49 9 34 47,51 9 58 2,27 10 10 2,15 | |

Observation of the Eclipses of Jupiter's Satellites in the Years 1836 and 1837.

| 1836 | Satellite. | Im. or Em. | Telescope. | Power. | Madras Mean Time. | REMARKS. |
|----------|------------|------------|------------|--------|-----------------------|---|
| Jan. 27 | II | Emersion. | 5 feet. | 110 | h. m. s. 8 10 54,3 | |
| Feb. 1 | I | Emersion. | 5 feet. | 150 | 7 56 28,3 | |
| 3 | II | Emersion. | 5 feet. | 110 | 10 47 15,9 | |
| 15 | I | Emersion. | 42 inches. | 75 | 11 46 49,6 | |
| 27 | III | Immersion. | 5 feet. | 110 | 6 35 20,4 | |
| 27 | III | Emersion. | 5 feet. | 110 | 9 48 27,2 | |
| 28 | l II | Emersion. | 42 inches. | 75 | 8 0 22,6 | |
| Mar. 2 | I | Emersion. | 5 feet. | 110 | 10 5 27,8 | |
| 5 | III | Immersion. | 5 feet. | 110 | 10 32 57,9 | |
| 6 | II | Emersion. | 5 feet. | 110 | 10 33 14,3 | |
| 9 | I | Emersion. | 5 feet. | 110 | 12 0 59,1 | |
| 18 | I | Emersion. | 5 feet. | 150 | 8 25 15,6 | |
| 25 | I | Emersion. | 5 feet. | 110 | 10 20 41,6 | Moon near the Planet. |
| 29 | IV | Emersion. | 5 feet. | 150 | 8 39 35,8 | |
| 31 | II | Emersion. | 5 feet. | 150 | 7 41 19,2 | |
| April 10 | I | Emersion. | 5 feet. | 110 | 8 40 40,3 | |
| 10 | III . | Emersion. | 5 feet. | 110 | 9 53 28,6 | |
| 17 | III | Immersion. | 5 feet. | 110 | 10 33 49,7 | Planet low. Clear—observation satisfactory. |

| The state of the s | 1836 | | Satellite. | Im. or Em. | Telescope. | Power. | Madras Mean Time. | REMARKS. |
|--|-------|-----------|------------|------------|------------|--------|------------------------|--|
| - | 1 | 7 | I | Emersion. | 5 feet. | 110 | h. m. s. 10 36 54,2 | Planet low. Clear observation satisfac- |
| 1 | May 1 | 1 | 1 | Emersion. | 42 inches. | 75 | 7 17 1,7 | tory. |
| | _ | 2 | II | Immersion. | 5 feet. | 480 | 15 49 2,9 | |
| - | | 3 | III | Immersion. | 42 inches. | 75 | 13 49 2,9 | \ |
| and the last | | 6 | II | Immersion. | 42 inches. | 75 | 12 49 10,1 | |
| | | 25 | III | Immersion. | 5 feet. | 110 | 14 1 23,6 | |
| | | 25 | 111 | Emersion. | 5 feet. | 110 | 17 32 11,7 | |
| | Dec. | 1 | I | Immersion. | 5 feet. | 110 | 15 47 30,0 | |
| | | 5 | ΙV | Emersion. | 5 feet. | 110 | 16 8 20,6 | |
| Į | 3 | 10 | I | Immersion. | 5 feet. | 110 | 12 8 40,6 | |
| - | | 17 | ī | Immersion. | 5 feet. | 110 | 14 2 39,6 | |
| - | | 26 | I | Immersion. | 5 feet. | 110 | 10 24 13,6 | |
| 1 | 1837 | , | | | | | | |
| | Jan, | 9 | I. | Immersion. | 5 feet. | 110 | 14 9 37,3 | |
| | | 11 | 1 | lmmersion. | 5 feet. | 60 | 8 38 7,8 | Unsatisfactory; planet near the horizon. |
| | Feb. | 10 | I | Emersion. | 5 feet. | 110 | 12 57 20,5 | o south and y, plante hour the horizon. |
| | | 10 | II | Emersion. | 5 feet. | 110 | 14 49 40,0 | Dew rapidly deposited on the O. G. |
| | | 12 | I | Emersion. | 5 feet. | 110 | 7 25 50,4 | good observation. |
| | | 12 | III | Emersion. | 5 feet. | 110 | 13 13 43,5 | good observation. |
| | | 17 | I | Emersion. | 5 feet. | 110 | 14 51 6,9 | very good obs. |
| | t | 19 | Ι | Emersion. | 42 inches. | 75 | 9 19 35,3 | The proximity of the Moon unfavorable. |
| | | $_{21}$. | П | Emersion. | 5 feet. | 110 | 6 44 31,3 | very good obs. |
| | | 26 | I | Emersion. | 5 feet. | 110 | 11 14 2,1 | good observation. |
| | | 27 | IV | Emersion. | 5 feet. | 110 | 10 13 58,6 | |
| | Mar. | 7 | I | Emersion. | 5 feet. | 110 | 7 36 53,9 | 2 |
| | | 7 | I | Emersion. | 42 inches. | 70 | 7 36 54,9 | good observations. |
| | | 7 | II | Emersion. | 5 feet. | 110 | 11 58 36,2 | |
| | | 7 | II | Emersion. | 42 inches. | 70 | 11 58 41,2 | good observations. |
| | | 7 | I | Emersion. | 5 feet. | 70 | 9 31 24,3 | 7 |
| | | 7 | I | Emersion, | 42 inches. | 110 | 9 31 31,3 | good observations. |
| | 1 | 14 | l II | Emersion. | 42 inches. | 110 | 14 35 48,1 | good observation. |
| | 1 | 20 | III | Emersion. | 5 feet. | 110 | 9 8 18,6 | |
| | | 21 | I | Emersion. | 5 feet. | 110 | 11 25 48,7 | |
| | | 25 | II | Emersion. | 5 feet. | 60 | 6 32 54,2 | good observation. |
| | | 27 | III | Emersion. | 5 feet. | 60 | 13 5 26,4 | haze. |
| | 1 | 28 | I | Emersion. | 5 feet. | 60 | 13 20 21,1 | haze,—planet low. |
| | April | | II | Emersion. | 5 feet. | 60 | 9 8 53,2 | very good obs. |
| | | 6 | I | Emersion. | 5 feet. | 60 | 9 43 31,4 | |
| | | 18 | IV | Immersion. | 5 feet. | 110 | 11 36 54,2 | |
| | | 22 | I | Emersion. | 5 feet. | 60 | 8 2 39,4 | |
| | 1 | 29 | I | Emersion. | 5 feet. | 140 | 9 58 5,3 | very good obs. |

| 183 | 37 | Satellite. | Im. or Em. | Telescope. | Power. | Madras Mean Time. | Remarks. |
|------|----|------------|------------|------------|--------|----------------------|----------|
| May | 2 | III | Emersion. | 5 feet. | 110 | h. m. s. 9 4 27,5 | |
| | 3 | II | Emersion. | 5 feet | 110 | 1 54 30,2 | |
| | 5 | IV | Emersion. | 5 feet. | 110 | 10 22 45,2 | |
| | 9 | III | Immersion. | 5 feet. | 110 | 9 31 17,1 | |
| | 15 | I | Emersion. | 5 feet. | 110 | 8 15 59,4 | |
| Dec. | 16 | II | Immersion. | 5 feet. | 60 | 16 24 5,3 | |
| | 17 | 111 | Immersion. | 5 feet. | 110 | 12 47 22,4 | |
| | 17 | III | Emersion. | 5 feet. | 110 | 16 12 8,2 | |
| | 29 | 1 | Immersion. | 5 feet. | 110 | 13 25 8,3 | |

| Occultation of Stars by the Mon | Toon | M | the | by | Stars | of | Occultation |
|---------------------------------|------|---|-----|----|-------|----|-------------|
|---------------------------------|------|---|-----|----|-------|----|-------------|

| | g com a ag cha 2,200m. | Me: | | 'ime. |
|----------|--|-----|--------------|--------|
| 1836 | | | m. | \$, |
| March 23 | Immersion of <i>Tauri</i> behind the Moon's dark limb, observed with 5 feet Achromatic power 60 at | | 6 | 32,7 |
| Oct. 13 | Immersion of & Scorpii behind the Moon's dark limb, observed with 5 feet Achromatic power 110 at | | 32 | 41,3 |
| 15 | | | | ĺ |
| 1837 | | | | |
| | Immersion of A Ophiuchi behind the Moon's enlightened limb observed with 5 feet Achromatic power 110 a | | 42 | 39,5 |
| March 9 | Immersion of o Piscium behind the Moon's dark limb, ob served with 5 feet Achromatic power wheel a | | 3 <i>5</i> 9 | 34,3 |
| *10 | Immersion of a small star behind the Moon's dark limb, observed with 5 feet Achromatic power | | 7 6 | 37,0 |
| †11 | Immersion of a small star behind the Moon's dark limb, ob served with 5 feet Achromatic power 60 | | 3 48 | 3 15,5 |
| April 12 | Immersion of v Geminorum behind the Moon's dark limb observed with 5 feet Achromatic power 110 | | 0 10 | 19,7 |

LUNAR ECLIPSES.

Observation of the Eclipse of the Moon on the 24th October 1836.

| | | | | | | Мe | Iadr an T | ime. | |
|-------------------|--------------------------|---------|------|------|------|----|--------------|------|---|
| Beginni End of | ing of the the Eclips | Eclipse | | | | 6 | 0 | 37,9 | 9 |

^{*} I was watching the approach of this star to the Moon's dark border, when my attention was arrested by the appearance of a nebulosity, about as bright as a star of the 6th magnitude,—situated upon the Moon's disc, at about 4 minutes from the unenlightened edge;—on referring to a chart of the Moon, the phenomenon evidently proceeded from the spot Aristarchus; I have frequently looked for this appearance during the early age of the Moon, but have never before seen any thing to compare with the brilliancy which I have this evening witnessed.

[†] The same appearance continues.

The state of the air was unfavorable for accurate observations, in consequence of which, these times are little to be depended upon. Observed with 5 feet Achromatic power 60.

Observation of the Eclipse of the Moon on the 20th April 1837.

| | TAT | aur | as |
|--------------------------|----------|---------------------------------------|--|
| | Mea | ın T | ime. |
| | h. : | m. | s. |
| Beginning of the Eclipse | 11 | 10 | 50.6 |
| Touches Grimaldus | | | 30,3 |
| Covers do. | | | 53,1 |
| Covers Gallilius | | | 36,5 |
| Covers Aristarchus | | | 3,8 |
| Touches Tycho. | | | 51,7 |
| Covers do. | | | 46,5 |
| Touches Plato | | | 56,3 |
| Covers do | | | 16,1 |
| No. 28 disappeared | | | 53,7 |
| Censorinus do. | | | 17,0 |
| Proclus do | 12 | | 53,6 |
| Touches Mare Christium | - ~ | | 45,5 |
| Covers do. do | | | 1,0 |
| Totally Eclipsed | | | |
| End of total darkness | 14 | | |
| Covers Grimaldus | | | • |
| Leaves do. | | | • |
| Leaves Aristarchus | 15 | | , |
| Tycho covered | | | ,- |
| Leaves Tycho | | | - |
| End of the Eclipse | | | 46,8 |
| Totally Eclipsed | 14 15 | 11 49 55 56 2 18 19 | 46,6 26,7 13,7 17,5 34,5 9,9 7,7 |

The Earth's shadow was exceedingly well defined, and the air particularly clear; the times of beginning and end as well as those of contact with the various spots, are I believe, as accurate as observations of this nature will permit; but the times of "Totally Eclipsed," and "End of total darkness,"—from the rapidity with which the last thread of light was dissolved and formed, are by far the most accurate portion of the observations; these cannot I think be more than two seconds in error—

Observed with the 5 feet Achromatic with a power of 60.

Observation of the Eclipse of the Moon on the 13th October 1837.

| ${f M}$ | ean T | ime. |
|--------------------------|-------|------|
| Beginning of the Eclipse | 59 | 18,6 |

This observation was made during my absence from Madras—by Ragavachariar, the head assistant; he states that flying clouds prevented very accurate observation—Observed with 5 feet Achromatic power 60.

Observed North Polar Distance of the Planet Mars and of Stars situated near to his path at the opposition of 1837.

| 1837 | Names. | Madras Mean | Bar. | Th mom | er- eter. | Observed N. P. D. | Remarks. |
|---------|--|------------------|----------------------------|----------------------|----------------------|--|----------|
| | | Time. | | in | out | 14, 1, 10, | |
| Jan. 26 | δ Centrum * 2 η Leonis | h. m. 13 16,7 | Inches. 30,050 | 71,2 | 66,7 | 71 20 27,8 71 12 6,2 72 27 31,2 | |
| 27 | * u 3 Centrum n Leonis | 13 11,4 | 30,066 30,050 | 71,0 | 67,0 76,0 | 71 8 48,5 71 12 20,8 72 27 30,3 | |
| 28 | * P Centrum n Leonis | 13 6,0 | 30,096 30,064 | 74,0 72,4 | 71,7 69,0 | 71 0 37,0 72 27 31,7 71 4 11,9 | |
| 29 | * Centrum n Leonis | 13 0,6 | 30,128 | 75,2 | 73,7 | 70 53 16,0 70 56 6,4 72 27 30,3 | |
| 31 | δ Centrum * η Leonis | t 12 49,6 | 30,110 30,094 | 74,8 | 71,0 69,8 | 70 39 59,4 70 35 1,3 72 27 31,7 | |
| Feb. 2 | * Centrum 7 Leonis | 12 38,6 | 30,100 | 73,5 | 68,6 68,0 | 70 15 19,2 70 24 7,7 72 27 31,7 | |
| 3 | * β Centrum η Leonis | 12 33,2 | 30,144 30,126 30,124 | 75.6 74,7 74,5 | 70,6 70,0 69,7 | 70 15 17,9 70 16 20,6 72 27 32,0 | |
| 4 | * 3 Centrum | 12 27,6 | 30,114 30,102 | 75,0 74,0 | 73,0 $72,3$ | 70 | |
| 5 | 8 Cancri * 3 Centrum | 12 22,1 | 30,032 | 74,2 | 70,6 69,7 | 71 15 52,5 69 50 37,2 70 1 5,1 | |
| 6 | δ Cancri * δ Centrum | n 12 16,6 | 30,024 | 74,2 74,0 73,8 | 71,7 70,0 | | |
| 7 | δ Cancri δ Centrum | 12 11,1 | 30,072 30,064 | 76,0 75,8 | 74,3 73,7 | 71 15 52,6 69 46 22,1 69 41 18,0 | |
| 8 | δ Cancri * 1141 A. S. C. δ Centrum | 12 5,5 | 30,116 | 76,0 76,0 | 74,3 73,7 | 71 15 53,1 69 31 36,9 69 39 16,2 | |
| 9 | δ Cancri * 1141 A. S. C. δ Centrum | 12 0,0 | 30,094 | 75,3 75,0 | 72,0 | 71 15 52,7 69 31 36,1 69 32 22,2 | |
| 10 | δ Cancri δ Centrum | o 11 54,5 | 30,092 30,080 30,070 | 77,2 76,9 76,5 | 75.5 75,2 74,0 | 69 25 39,8 | |
| 11 | δ Cancri δ Centrum * | 0 11 49,0 | 30,012 | 77,5 | 74,6 74,0 | 69 19 10,2 | |
| 12 | δ Cancri | | 29,944 | 78,0 | 76,6 | 71 15 51,2 | |

| 1837 | Names. | | Madras Mean Time. | Bar. | The mome | ter. | Observed N. P. D. | REMARKS. |
|---------|----------------------------|---------------|--|------------------|------------------|----------------------|--|----------------------|
| Feb. 12 | & Centrum | | $ \begin{array}{c c} h. & m. \\ 1 & 43,5 \end{array} $ | Inches. | in | out | 69 12 54,0 | |
| 13 | * 8 Cancri | $\frac{m}{ }$ | | 30,056 | 77,7 79,7 | 76,0 | 69 10 6,5 71 15 51,5 | |
| M. | 3 Centrum | i | 11 38,0 | 30,046 | 79,4 | 79,5 | 69 6 51,0 68 57 23,5 | |
| 14 | γ Cancri δ Centrum | i | 11 32,6 | 30,110 | 79,5 | 77,6 | 67 57 46,9 69 1 3,3 68 57 26,6 | |
| 15 | γ Cancri δ Centrum | h | 11 27,1 | 30,130 30,120 | 78,2 | 77,0 | 67 57 47,4 68 55 32,6 68 47 0,0 | |
| 17 | γ Cancri * δ Centrum | e | 11 16,3 | 30,160 | 78,2 | 76,2 76,0 | 67 57 47,8 68 40 19,4 68 45 13,7 | |
| 18 | γ Cancri δ Centrum | | 11, 11,0 | 30,140 30,136 | 78,5 78,3 | 75,0 74,0 | 67 57 47,2 68 40 27,1 | |
| 19 | γ Cancri Č Centrum | g | 11 5,7 | 30,110 | 76,0 | 72,0 | 67 57 46,4 68 36 58,9 68 30 58,3 | |
| 20 | γ Cancri δ Centrum | g | 11 0,4 | 30,152 | 76,8 | 72,0 | 67 57 48,2 68 31 46,7 68 31 5,2 | |
| 21 | γ Cancri δ Centrum | f | 10 55,2 | 30,186 30,184 | 78,1 | 75,0 76, 2 | 67 57 47,9 68 27 49,6 68 26 20,9 | |
| 26 | γ Caucri * δ Centrum | b | 10 29,4 | 30,044 | 78,0 | 75,3 | 67 57 45,1 68 13 4,3 68 12 12,8 | |
| 27 | γ Cancri 3 Centrum | | 10 24,4 | 30,034 | 77,9 | 74,3 | 67 57 45,8 68 9 53,3 | |
| 28 | γ Cancri * δ Centrum | а | 10 19,5 | 30,078 | 78,2 | 74,8 | 67 57 45,4 68 13 6,6 68 7 50,4 | Observed by mistake. |
| Mar. 1 | γ Cancri * δ Centrum | а | 10 14,6 | 30,116 | 78,2 | 77,3 | 68 13 6,6 68 6 2,9 | |
| 4 | γ Cancri * Centrum | а | 10 0,3 | 30,096 | 79,7 | 78,8 | 68 2 21,6 | |
| ξ | | | 10 0,0 | 30,116 | - | 77, | 5 67 57 43,8 | |
| | 3 Centrum | а | 9 55,6 | | | | 68 2 22,1 68 1 31,1 | |
| | γ Cancri δ Centrum | a | | 30,120 | 79,5 | 76, | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | |
| | 7 γ Cancri | | 1 | 30,116 | 80,0 | 76, | 9 67 57 43,1 | |

Observed North Polar Distance, of Mars, &c. continued.

| 1837 | Names. | Madras Mean | Bar. | Th mom | | Observed N. P. D. | Remarks. |
|--------|------------------------|-----------------|---------|-----------|--------------|---------------------------------------|----------|
| | | Time. | | in | out | N. F. D. | |
| Mar. 7 | & Centrum | h. m. 9 46,4 | Inches. | 0 | 0 | 68 0 44 3 68 2 19,3 | |
| 8 | γ Cancri δ Centrum * a | 9 41,9 | 30,106 | 79,9 | 78,0 | 67 57 42,6 68 0 43,3 68 2 20,0 | |
| 9 | γ Cancri δ Centrum | 9 37,4 | 30,124 | 79,9 | 77,7 | 67 57 43,5 68 0 55,7 68 2 20,4 | |
| 10 | 7 Cancri 3 Centrum | 9 33,0 | 30,072 | 79,7 | 78,5 | 67 57 41,7 68 1 23,2 68 2 20,2 | |
| I1 | γ Cancri δ Centrum | 9 28,7 | 30,024 | 80,3 | 80,2 | 67 57 42,6 68 2 3,3 | |
| 12 | γ Cancri δ Centrum | 9 24,4 | 30,076 | 80,2 | 79,7 | 67 57 41,4 68 2 58,4 | |
| 13 | γ Cancri δ Centrnm * | 9 20,2 | 30,076 | 81,0 | 79,0 | 67 57 43,1 68 4 5,7 68 2 18,9 | |
| 14 | γ Cancri δ Centrum | 9 16,0 | 29,990 | 81,8 | 80,0 79,8 | 67 57 42,2 68 5 24,5 68 2 23,4 | |
| 15 | γ Cancri δ Centrum | 9 10,7 | 29,960 | 80,6 | 79,5 | 67 57 42,4 68 6 57,8 68 13 2,9 | |
| 16 | γ Cancri δ Centrum * | 9 7,6 | 30,000 | 80,5 | 79,6 | 67 57 43,3 68 8 40,5 68 13 4,1 | |
| 17 | Centrum | 9 3,5 | 30,044 | 80,4 | 80,0 | 68 10 37,4 | |
| 18 | γ Cancri δ Centrum | 8 59,4 | 30,054 | 80,7 | 78,2 | 67 57 42,6 68 12 45,7 68 13 2,8 | |
| 19 | γ Cancri δ Ce ntrum | 8 55,5 | 29,998 | 82,3 | 81,8 | 67 57 42,3 68 15 1,2 68 13 4,2 | |
| 20 | & Centrum | 8 51,6 | 29,990 | 82,0 | 80,0 | 68 17 34,1 | |

The above observations have been given here—out of their proper place,—to enable me (without loss of time) to avail myself of the corresponding observations made at the Cape of Good Hope Observatory, with which, through the kindness of the Astronomer Royal I have just been favoured: thus, putting p', p'', &c. to represent the equatoreal horizontal parallax of the Planet Mars; and computing the values of dr, (the difference of refraction between the Planet and Star) and of $\Delta \delta$, the change of Declination in the interval occupied by the Planet in passing from one meridian to the other, we get

Observed North Polar Distance of Mars, &c.

| | | MAD | RAS OBS | ERVATIONS. | | Cape of | Gоор Н | ope Obse | RVATION | is. |
|---------|------------------------------|--|----------------|------------------------------------|-------------------|---------------------|------------------|--------------------------------------|---------------------|--------------|
| 1837 | Names. | Observed diff. | dr. | Р | | Observed diff. | | P | Δδ | e e |
| Jan. 26 | δ Cent. & x Leonis δ — & η — | 0 8 21,6 1 7 3,4 | +0,13 1,12 | r + ,0990 p — ,0990 | = (= 1 | | | - ,7963 p - ,7963 | +123 -123 | |
| 27. | δ — & ω — δ — & η — | 0 3 32,3 1 15 9,5 | 0,07 1,25 | $+ ,1013p^{i} $ $- ,1013$ | = (= 1 | 1 56,86 16 44,33 | | - ,7978pi - ,7978 | +123 -123 | |
| 28 | δ — & P— δ — & η — | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 0,07 1,37 | $+ ,1037p^{ii} $ $- ,1037$ | = 0 = 0 | 2 2,04 24 50,02 | | - ,7992p ⁱⁱ - ,7992 | +123 -123 | |
| Feb. 5 | 3 — & n Cancri | 0 10 27,9 | 0,17 | + ,1219p ⁱⁱⁱ | = 0 | 9 1,32 | 0,24 + | - ,8100p ⁱⁱⁱ | + 1 17 | ,00 |
| 6 | δ — & δ — δ — & n — | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 1,36 0,07 | $-,1242p^{iv} +,1242$ | | 23 37,61 1 37,26 | | - ,8114p ^{tv} - ,8114 | $\frac{-115}{+115}$ | • |
| 7 | δ — & δ — δ — & r — | 1 29 30,5 0 5 4,1 | 1,47 0,08 | $-$,1262 p^{v} + ,1262 | = 1 = 0 | 30 53,98 3 48,67 | | - ,8128p* - ,8128 | $\frac{-1}{+1}$ 13 | |
| 8 | 3 & 5 | 1 36 36,9 | 1,60 | $,1282p^{ri}$ | = 1 | 37 55,50 | 2,48 — | -,8141p ^{vi} | -111 | ,81 |
| 9 | 3 — & 5 — | 1 43 30,5 | 1,71 | $-$,1302 p^{vii} | =1 | 44 48,36 | 2,66 — | - ,8149 <i>p</i> * ⁱⁱ | <u> </u> | 78 |
| 11 | δ — & δ — δ — & ο — | 1 56 41,0 0 1 45,6 | 1,91 0,02 | $-,1340 p^{\text{viii}} +,1340$ | | 57 52,81 0 30,61 | | - ,8171p''i - ,8171 | | 5,37 5,37 |
| 12 | δ — & δ — δ — & m— | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 2,33 0,04 | ,1360p ix + ,1360 | $= {0 \atop = 0}$ | 4 4,60 1 35,53 | 3,14 — 0,04 + | -,8183pix -,8183 | | 3,03 3,03 |
| 14 | δ — & γ — δ — & i — | 1 3 16,4 0 3 36,7 | 1,04 0,07 | $+,1392p^* +,1392$ | =1 $=0$ | 2 9,75 2 32,20 | 1,57 + 0,08 + | - ,8201p* - ,8201 | + 0 57 + 0 57 | |
| 15 | δ — & γ — δ — & h — | 0 57 45,2 0 8 32,6 | 0,92 0,14 | $+,1423p^{xi}$ $+,1423$ | | 56 35,63 7 24,60 | | - ,8220p*i - ,8220 | + 0 55 + 0 55 | |
| 18 | ĉ — & y — | 0 42 39,9 | 0,69 | $+$,1452 p^{xii} | = 0 | 41 44,53 | 1,01 + | - ,8236pxii | | - |
| 20 | ∂ — & γ — ∂ — & g -— | 0 33 58,5 0 0 41,5 | 0,54 0,09 | $+ ,1478p^{xiii} + ,1478$ | $= 0 \\ = 0$ | 33 9,15 0 4,97 | | · ,8251pxiii · ,8251 | $+ 041 \\ - 041$ | - |
| 21 | δ — & γ — δ — & f — | 0 30 1,7 0 1 28,7 | 0,53 0,02 | + ,1490pxiv + ,1490 | | 29 15,17 0 43,58 | | - ,8258p ^{xiv} - ,8258 | + 0 39 + 0 39 | |
| 28 | δ — & γ — | 0 10 5,0 | 0,25 | + ,1547p** | = 0 | 9 36,10 | 0,22 - | ⊦ ,8290 p ×v | + 0 19 | ,40 |
| Mar. 4 | δ — & γ — δ — & α — | 0 4 37,2 0 0 5,5 | 0,08 0,00 | $+,1561 p^{xvi}$,1561 | | 4 15,89 0 21,09 | 0,11 + | ,8298p*** - ,8298 | • | 3,73 3,73 |
| 6 | -2 & α — S | 0 1 21,8 | 0,02 | — ,1564p***ii | = 0 | 1 33,53 | 0,03 - | - ,8300p**i | 1 - 0 = 3 | 3,70 |
| 7 | δ — & γ — δ — & α — | 0 3 1,2 0 1 35,0 | $0,07 \\ 0,02$ | $+ ,1567 p^{\text{xviii}} - ,1567$ | | 2 52,17 1 44,33 | 0,06 + | ,8302p**** ,8302 | • , | ,22 |
| 10 | δ — & γ — δ — & α — | 0 3 41,5 0 0 57,0 | 0,07 0,01 | + ,1564pxix - ,1564 | | 3 39,06 0 57,80 | | * ,8300p*i* - ,8300 | -0.6 | 3,01 |
| 12 [| <u>δ — & γ — </u> [| 0 5 17,0 | 0,08 | + ,1561p*x | = 0 | 5 17,39 | | -,8298p** | | - |
| 13 | δ — & γ — , δ — & α — | 0 4 22,6 0 1 46,8 | 0,08 0,02 | + ,1556p*xi - ,1556 | = 0 | 6 25,31 1 47,64 | 0,14 + 0,10 - | ,829 <i>5p</i> ** - ,829 <i>5</i> | -0.12 | 2,79 2,79 |
| 18 | δ — & γ — δ — & b — | $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 0,25 0,00 | $+ ,1533p^{xxii} $ $- ,1533$ | = 0 = 0 | 15 18,25 0 8,16 | 0,34 - | - ,8282p*** - ,8282 | 0 22 | 2.80 |
| 19 | δ — & γ — δ = - & δ | 0 17 18,9 | 0,26 0,02 | + ,1524p***** + ,1524 | =0 | 17 36,01 | 0,39 | - ,8277p*x | ii 0_24 | 1.91 |

Resolving the above equations, and employing the log. distance of the Planet from the Earth—furnished in the Nautical Almanac—for the moment intermediate between the transit of the Planet over the two Observatories; we get π , the Equatoreal Horizontal Parallax of the Sun.

| | | N | | | H | * | |
|------|----|------------------------|---|-------|----------------------------|-----------------------|--|
| Jan. | 26 | 10,88 = 1,81 | ,6973 p ,6973 p | · · p | = 15,61 or $=$ | $\pi = 10,68$ | Probably another Star instead of x |
| • | 27 | 11,9 <i>5</i> 10,58 | ,6965 $p^{ m i}$ | | = 17,16 = 15,20 | =14,71 = 10,37 | has been observed by one or theother. |
| | 28 | 9,26 4,89 | $,6955p^{	ext{ii}},6955p^{	ext{ii}}$ | | = 13,31 = $.7,03$ | $= \frac{9,05}{4,78}$ | |
| Feb. | 5 | 9,51 | ,6881 p^{iii} | | =13,82 | = 9,31 | |
| | 6 | 10,01 10,21 | , $6872p^{\mathrm{iv}}$, $6872p^{\mathrm{iv}}$ | | = 14,57 = 14,86 | = 9.82 = 10.02 | |
| | 7 | 10,67 1,64 | $,6866p^{	extsf{v}},6866p^{	extsf{v}}$ | | = 15,54 | =10,49 | f badly observed either at Madras or |
| | 8 | 7,67 | , $6859p^{ m vi}$ | | = 11,18 | 7,55 | the Cape. |
| | 9 | 9,03 | , $6847p^{ m vii}$ | | = 13,19 | 8,92 | and the state of t |
| | 11 | 7,46 10,24 | ,6831 p^{viii} ,6831 p^{viii} | | = 10,92 $= 14,99$ | 7,41 10,18 | |
| | 12 | 5,18 8,94 | ,6823 p^{ix} ,6823 p^{ix} | | = 7,59 $= 13,10$ | 5,17 9,12 | |
| | 14 | 8,13 6,47 | ,6809p* ,6809p* | | $= {}^{11,94} = {}^{9,50}$ | 8,17 6,65 | |
| | 15 | 13,68 12,57 | $,6807p^{xi}$ $,6807p^{xi}$ | | = 20,09 = 18,47 | 13,80 12,68 | |
| | 18 | 7,71 | $,6784p^{*1}$ | | <u> </u> | 7,89 | |
| | 20 | 7,28 4,67 | ,6773 p^{xiii} ,6773 p^{xiii} | | = 10,75 $= 6,89$ | 7,53 4,83 | |
| | 21 | 7,36 6,14 | ,6768 p^{xiv} | | = 10,87 = 9,07 | 7,66 6,39 | |
| | 28 | 9,53 | $,6743p^{xy}$ | | =14,13 | 10,37 | |
| Mar. | 4 | 12,36 6,86 | ,6737 p^{xvi} ,6737 p^{xvi} | | = 18,34 = 10,18 | 13,85 7,69 | |
| | 6 | 8,01 | $,6736p^{xvii}$ | | =11,89 | 9,11 | |
| | 7 | 7,82 8,13 | ,6735 $p^{	ext{xviii}}$,6735 $p^{	ext{xviii}}$ | | $= ^{11,61}_{=12,07}$ | 8,96 9,31 | |
| | 10 | 8,43 6,33 | ,6736 p^{xix} ,6736 p^{xix} | | =12,51 = 9,40 | 9,89 7,42 | |
| | 12 | 10,17 | $,6737p^{xx}$ | | =15,10 | 12,13 | |
| | 13 | 10,02 13,71 | $,6739p^{xxi}$ $,6739p^{xxi}$ | | =14,87 = 20,35 | 12,04 16,48 | The Madras Obs. of a is too small. |
| | 18 | 7,56 13,86 | $,6749p^{xxii}$ $,6749p^{xxii}$ | | =11,20 = 20,54 | 9,46 17,34 | The Cape Obs. of a is too small. |
| | 19 | 7,67 4,79 | $,6753p^{xxiii}$ $,6753p^{xxiii}$ | | = 11,36 $= 7,09$ | 9,67 6,04 | The Cape Obs. of a is too large. |

Mean = 9",486
Whereas from a similar series of observations at the opposition of 1832-33 we obtained for π Do. Do. 1834-35 8,595
Giving to each series the same weight, we obtain the mean Equatoreal Hor. Pa. of the Sun, or π = $\frac{3}{2}$ 9,331

OBSERVATIONS OF THE FIXED STARS.

THE observations of the Fixed Stars in 1836 & 1837 have been principally confined to a Catalogue of 2070 Stars, which, with those given in Vols. II. & III. completes the re-observation of Piazzi's Catalogue. It was my intention in 1836 to have made four observations of each Star at each Instrumenttwo in the first year, and two in the second, whereby any error in the observation or reduction would readily be detected;—this plan has for the most part been accomplished,-the principal deviation therefrom being in the hours XX & XXI, where, having to encounter a large number of Stars (from 140-150 in each hour) and that too at a time of the year little favorable to Observation,-I have been unable to make more than two or three, and in some cases only one observation of each Star; but, taking into account the accuracy to which each single observation may lay claim, I have thought it proper, rather to give this single observation, than to omit the Star from the Catalogue. The Magnitudes are from the mean of all the observations at both instruments, save that in the case where half a magnitude had to be decided between the two instruments, I have given it in favor of the Transit, as being derived from the better instrument of the two, and from the most skilful observers. The Corrections which have been employed, are those resulting from the values of a, b, c, d, of the Catalogue in conjunction with the values of A, B, C, D, given in the Nautical Almanac;—these values of a, b, c, &c. have been computed for the year 1840, by applying to the A. R. and Declination given in Piazzi's Catalogue—the amount of 40 times the annual precession there given, whereby the places for 1840, are for this purpose obtained to a sufficient degree of accuracy. The formulæ employed (which has been explained at full length by Mr. Bailly in the appendix to the second volume of the Memoirs of the Royal Astronomical Society), is as follows

$$a = + \cos \alpha \cdot \sec \delta$$

$$b = + \sin \alpha \cdot \sec \delta$$

$$c = + 46^{\circ}024 + 20^{\circ}042 \cdot \sin \alpha \cdot \tan \delta$$

$$d = + \cos \alpha \cdot \tan \delta$$

$$a' = + \tan \omega \cdot \cos \delta - \sin \alpha \cdot \sin \delta$$

$$b' = + \cos \alpha \cdot \sin \delta$$

$$c' = + 20^{\circ}042 \cos \alpha$$

$$d' = - \sin \alpha$$

and the values of A, B, C, D from the Nautical Almanac are computed from the formulæ

A =
$$-18'',6768$$
 cos. \odot

B = $-20'',3600$ sin. \odot

C = $t - 0,02495$ sin. $2 \odot - 0,34362$ sin. $\Omega + 0,00413$ sin. $2 \Omega - 0,004$ sin. 2Ω

D = $-0'',54470$ cos. $2 \odot -9'',25000$ cos. $\Omega + 0'',09030$ cos. $2 \Omega - 0'',090$ cos. 2Ω

from which we deduce

Apparent A. R. in arc.
$$= a + A a + B b + C c + D d$$
.

Apparent Declination $= \delta + A a' + B b' + C c' + D d'$.

where t denotes the time from the beginning of the year, a represents the A. R. of the Star, s its Declination, and w the Obliquity of the ecliptic. To guard against mistakes, the computations of these values as well as the places for 1840—have all been performed in duplicate, thus;—when the first computation had once been completed, the resulting values properly arranged—were neatly registered in a book which it was intended should be eventually employed in the ulterior computations, and the said book together with the details of the computation carefully locked up;—the computation was now again gone over anew, the results carefully compared with those registered in the fair book, and the discrepancies set right by a re-examination of each of the original computations; when the error, if occurring in the first computation, was rectified by neatly erasing the erroneous figures in the fair book: in the examination of the press, the proof sheet has always been compared with this original document, by which means, errors (with the exception of those given in the errata) have I hope been completely avoided.

SUBSIDIARY CATALOGUE (No. 2.)

OF

THE FIXED STARS

REDUCED TO JANUARY 1, 1836.

Together with the values of a, b, c, d, &c.

COMPUTED FOR THE YEAR 1840.

| No. | Star's name and | Mag. | No. | | Right cension | Annual Preces- | | Logarith | ıms of | |
|----------------------------|--|--------------------------------|-----------------------|--------------|---|---|---|---|---------------------------|--|
| | | J | Obs. | Jan. | . 1, 1836. | sion. | а | b | . с | d |
| 1 2 3 4 5 | Andromedæ Ceti θ App. Sculp. Andromedæ | 7.8 9 var. 6.7 7.8 | 4 4 3 | <i>h</i> . 0 | m. s. 1 59,87 2 0,62 2 46,05 3 23,29 3 33,71 | s. +3,074 3,065 3,067 3,053 3,079 | +8,8770 ,8346 ,8250 ,9161 ,8768 | +6,8593 6,8169 6,9323 7,1122 7,0887 | ,4867 ,4847 | -8,1762 -7,6915 -8,6856 |
| 6 7 8 9 10 | Ceti App. Sculp. Andromedæ Piscium Andromedæ | 8 8 8.9 7.8 | 3 4 3 3 3 | | 4 49,44 4 57,00 6 0,77 6 32,75 6 36,65 | 3,044 3,098 3,073 | ,9403 ,8279 | ,3727 ,2960 | ,4911 ,4876 | -8,7278 +8,7496 +7,9669 |
| 11 12 13 14 15 | Andromedæ Piscium App. Sculp. Cassiopeæ | 7.8 7.8 7.8 7 | 3 | | 6 41,20 6 54,17 7 39,51 7 50,73 8 11,76 | 3,063 3,073 3,039 | 8,8270 8,8271 8,8968 | ,3161 ,3629 ,4435 | ,4861 ,4876 ,4827 | +8,5195 -7,9149 +7,9262 -8,6250 +9,0736 |
| 16 17 18 19 20 | Ceti ———————————————————————————————————— | 7.8 8.9 7 7.8 7.8 | 3 3 3 | | 8 15,33 8 45,62 9 13,13 9 25,13 9 54,90 | 3,056 5 3,049 3 3,066 | ,8347 ,8504 ,8240 | ,4258 ,4636 ,4464 | ,4851 ,4842 ,4866 | +7,0508 -8,1846 -8,3830 -7,5051 -7,5281 |
| 21 22 23 24 25 | Piscium Phænicis Andromedæ | 8 6 | 3 3 | | 10 5,13 10 26,73 10 31,34 10 51,34 11 49,96 | 3,055 3,008 4 3,099 | ,8328 ,9673 ,8681 | ,5009 ,6382 ,5523 | ,4850 ,4783 ,4912 | $\begin{array}{c} +8,5959 \\ -8,1447 \\ -8,8100 \\ +8,5032 \\ -8,2185 \end{array}$ |
| 26 27 28 29 30 | App. Sculp. Ceti App. Sculp | . 7. 8 | 8 4 3 | | 12 58,0° 13 2,9 13 17,1° 13 34,7° 13 56,9° | $egin{array}{c c} 1 & 3,010 \ 7 & 3,044 \ 0 & 3,033 \ \end{array}$ | 8,8428 8,8620 | ,6821 ,6124 ,6422 | ,4786 ,4834 ,4819 | $\begin{bmatrix} -8,6953 \\ -8,3112 \\ -8,4693 \end{bmatrix}$ |
| 31 32 33 34 35 | Ceti App. Sculp Andromedæ | 9 7 7 7. 8 | 4 3 8 4 | | 14 21,76 14 45,09 14 59,5 16 4,1 16 30,4 | 3,044 5 3,013 1 3,124 | 8,8420 8,8941 1 8,8874 | ,6566 ,7164 ,7393 | ,4834 ,4790 ,4947 | 8,3038 8,6173 |
| 36 37 38 39 40 | Piscium | 8 7. 7 7. | 8 3 8 4 | | 16 35,9 17 32,1 17 32,5 18 29,5 18 43,5 | $ \begin{vmatrix} 3 & 3,051 \\ 6 & 3,104 \\ 2 & 3,117 \end{vmatrix} $ | ,8283 1 ,8476 7 ,8622 | ,7177 ,7371 2 ,7756 | ,4844 ,4919 5 ,4937 | $\begin{vmatrix} -8,0336 \\ +8,3661 \\ +8,4741 \end{vmatrix}$ |
| 41 43 44 44 | Ceti Andromeda Ceti | 7. 9. 9. 8. 7. | .8 3 3 3 | | 18 55,6 19 41,0 20 15,5 20 51,6 21 6,7 | 7 3,042 3 3,155 9 3,04 | 8328 3 ,9143 1 ,832 <i>8</i> | ,7718 3 ,866 5 ,797 | ,4839 ,498 ,4830 | $\begin{bmatrix} 2 & -8,1698 \\ 7 & +8,6837 \\ -8,1672 \end{bmatrix}$ |

| No. | No. | Declination | Annual Preces- | | Logarith | nms of | | zi No. | Annual | P. M. |
|----------------------------|---|--|---|---|---|---|--|----------------------------|---|--|
| 110. | Obs. | Jan. 1, 1836. | sion. | a' | b' | c' | d' | Piazzi | A. R. | Decn. |
| 1 2 3 4 5 | 4 4 3 4 4 | 0 / " +27 44 25,21 -12 41 52,32 - 4 13 59,77 -36 3 4,44 +27 41 53,98 | $\begin{vmatrix} & & & & & & & & & & & & & & & & & & &$ | +9,5798 +9,6284 +9,6375 +9,5563 +9,5763 | +9,6682 -9,3415 -8,8664 -9,7695 +9,6675 | +1,3019 ,3019 ,3019 ,3019 | 7,9822 7,9822 8,1072 8,1961 8,2119 | 2 3 4 7 8 | s. +,015 +,017 +,007 +,020 +,012 | - ,12 - ,01 + ,01 + ,15 - ,13 |
| 6 7 8 9 10 | 4 3 2 3 3 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 20,038 20,038 20,036 20,035 20,035 | +9,6345 +9,5478 +9,4983 +9,6294 +9,5539 | 9,0286 9,7961 +9,8091 +9,1388 +9,7072 | +1,3019 ,3019 ,3018 ,3019 ,3018 | 8,5387 ,5502 ,4322 ,4680 ,4723 | 10 11 13 17 18 | +,004 +,010 +,010 +,008 +,020 | - ,03 + ,11 - ,14 - ,06 - ,08 |
| 11 12 13 14 15 | 3 3 3 3 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 20,035 20,034 20,032 20,031 20,030 | +9,5752 +9,6385 +9,6307 +9,5866 +9,2577 | +9,6478 $-9,0877$ $+9,0988$ $-9,7279$ $+9,9400$ | +1,3018 ,3018 ,3017 ,3017 ,3017 | 8,4765 ,4890 ,5355 ,5464 ,5640 | 19 21 22 23 25 | +,011 +,016 +,007 +,018 +,019 | ,00 + ,01 ,00 - ,03 + ,02 |
| 16 17 18 19 20 | 3 4 4 4 3 | $\begin{array}{c} + 0 & 56 & 18,68 \\ -12 & 57 & 5,65 \\ -19 & 57 & 49,75 \\ -2 & 46 & 26,43 \\ -2 & 55 & 31,96 \end{array}$ | 20,030 20,028 20,026 20,026 2 0 ,024 | +9,6365 +9,6355 +9,6253 +9,6385 +9,6385 | +8,2268 -9,3496 -9,5323 -8,6807 -8,7037 | ,3016 | -8,5674 ,5907 ,6128 ,6219 ,6454 | 26 29 31 34 36 | +,014 +,016 +,001 +,005 +,011 | + ,01 + ,07 - ,09 - ,05 + ,02 |
| 21 22 23 24 25 | | +30 36 20,98 -11 51 33,80 -44 8 49,42 +25 32 34,73 -13 58 21,54 | 20,022 20,022 20,020 | +9,5441 +9,6385 +9,5378 +9,5682 +9,6375 | +9,7067 -9,3114 -9,8422 +9,6345 -9,3815 | ,3015 ,3015 | -8,6539 ,6677 ,6704 ,6837 ,7212 | 38 39 40 41 44 | +,016 +,017 +,004 +,011 +,007 | + ,03 + ,04 - ,02 + ,18 - ,01 |
| 26 27 28 29 30 | 3 3 | +37 16 39,25 -36 42 27,21 -17 7 3,92 -23 54 45,33 +61 19 55,73 | 20,010 20,009 20,007 | +9,4914 +9,5832 +9,6355 +9,6243 +9,1875 | $ \begin{array}{c c} -9,7755 \\ -9,4677 \\ -9,6065 \end{array} $ | ,3012 ,3012 | ,7623 ,7688 | 47 48 49 51 52 | -,001 +,014 +,028 | ,10 |
| 31 32 33 34 35 | 4 4 | +61 24 14,33 -16 51 14,31 -31 56 45,67 +30 27 47,36 -12 37 8,62 | 20,001 19,998 19,993 | +9,1818 +9,6375 +9,6053 +9,5289 +9,6434 | $\begin{array}{c c} -9,4609 \\ -9,7222 \\ +9,6983 \end{array}$ | ,3010 2 ,3010 5 ,3009 | ,8137 ,8213 ,8507 | 54 56 57 59 62 | +,009 ,000 +,011 | $\begin{vmatrix} + & ,01 \\ - & ,04 \\ - & ,08 \end{vmatrix}$ |
| 36 37 38 39 40 | 7 4 3 4) 4 | +24 8 4,0 | 19,983 19,983 1 19,976 | +9,6444 +9,5843 +9,5599 | $\begin{vmatrix} -9,2040 \\ 3 + 9,517 \\ 0 + 9,610 \end{vmatrix}$ | 3007 2 ,3007 4 ,3005 | ,8882 ,8882 ,9119 | 60 | $\begin{vmatrix} +,019 \\ 5 \\ +,014 \\ 1 \\ +,006 \end{vmatrix}$ | $\begin{vmatrix} 2 & + & 01 \\ 4 & - & 09 \\ 6 & - & 04 \end{vmatrix}$ |
| 41 45 45 44 | $egin{array}{c cccc} 2 & 3 & 4 & 4 & 4 & 4 & 4 & 4 & 4 & 4 & 4$ | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 2 19,967 6 19,964 5 19,958 | $\begin{vmatrix} +9,6464 \\ +9,4754 \\ +9,6474 \end{vmatrix}$ | $egin{array}{c c} 4 & -9,335 \ 7 & +9,767 \ 4 & -9,332 \end{array}$ | 4 ,3003 7 ,3003 9 ,300 | 3 ,9374 2 ,9503 1 ,9628 | 8 8 | $\begin{array}{c c} 8 & + ,00 \\ 0 & + ,00 \end{array}$ | 6 ,00 5 + ,04 6 + ,06 |

| No. | Star's name and | Mag. | No. Obs. | Right Ascension Jan. 1, 1836. | Annual Preces- sion. | | Logari | thms of | · · |
|-----------------------------------|---|-------------------------------|-----------------------|--|--|---|--|---|---|
| | Windows and the second | | | | sion. | a | b | С | d |
| 46 47 48 49 50 | App. Sculp. Piscium Andromedæ App. Sculp. Ceti | 7.8 7.8 7 7 8 | 23343 | h. m. s. 0 21 20,45 21 26,76 22 24,83 22 26,26 22 41,20 | s. +2,957 3,085 3,191 2,950 3,042 | +8,9479 ,8261 ,9580 ,9496 ,8297 | +7,9221 ,8017 ,9546 ,9462 ,8302 | +0,4708 ,4893 ,5039 ,4698 ,4832 | -8,7696 +7,9652 +8,7922 -8,7737 -8,1090 |
| 51 52 53 54 55 | Piscium Ceti Andromedæ Cassiopeæ | 7 7.8 7.8 7 8 | 3 2 2 3 2 | 23 5,04 23 23,97 23 49,50 24 11, 24 22,73 | 3,105 3,078 3,020 3,142 3,313 | +8,8370 8,8226 8,8461 8,8731 9,1181 | +7,8463 7,8369 7,8698 7,9020 8,1505 | +0,4921 ,4883 ,4800 ,4972 ,5202 | +8,2537 |
| 56 57 58 59 60 | Ceti Piscium Cassiopeæ | 7.8 8 8 8 7 | 2 1 4 2 3 | 24 50,04 25 5,98 25 14,09 26 4,55 26 24,01 | 3,056 3,064 3,078 3,343 3,276 | +8,8228 8,8214 8,8223 9,1352 9,0447 | +7,8634 7,8655 7,8688 8,1964 +8,1114 | +0,4851 ,4863 ,4883 ,5241 ,5153 | |
| 61 62 63 64 65 | Andromedæ Piscium Andromedæ Piscium Andromedæ | 8 8 8 8 7 | 3 4 2 2 3 | 26 46,98 26 59,84 27 32,67 28 35,42 28 35,56 | 3,139 3,099 3,137 3,056 3,183 | +8,8609 ,8288 ,8572 ,8217 ,9046 | +7,9341 7,9053 7,9421 7,9232 8,0061 | +0,4968 ,4912 ,4965 ,4851 ,5028 | $\begin{vmatrix} +8,4739 \\ +8,1081 \\ +8,4517 \\ -7,6949 \\ +8,6579 \end{vmatrix}$ |
| 66 67 68 69 70 | Ceti Piscium ———————————————————————————————————— | 9 7 7.8 7.8 7 | 4 3 4 3 2 | 29 36,47 30 29,72 30 39,48 31 8,57 31 27,55 | 3,047 3,090 3,075 3,102 3,029 | +8,8234 ,8233 ,8203 ,8274 ,8294 | +7,9399 7,9524 7,9513 7,9659 7,9726 | +0,4839 ,4900 ,4878 ,4916 ,4813 | $\begin{bmatrix} -7,9020 \\ +7,9112 \\ +7,4110 \\ +8,0941 \\ -8,1478 \end{bmatrix}$ |
| 71 72 73 74 75 | Piscium Ceti Phœnicis | 7.8 8 7.8 8 7.8 | 3 4 2 3 | 32 22,04 33 0,75 33 4,60 33 19,42 34 7,56 | 3,138 3,109 3,135 2,992 2,875 | +8,8469 ,8291 ,8443 ,8497 ,9621 | +8,0029 7,9931 8,0092 8,0180 8,1409 | +0,4966 ,4926 ,4962 ,4760 ,4586 | +8,3841 +8,1497 +8,3628 -8,4076 -8,8039 |
| 76 77 78 79 80 | Ceti Piscium Ceti Cassiopeæ Andromedæ | 7 7.8 7.8 7.8 7.8 | 3 3 2 3 3 | 35 34,77 36 44,55 36 44,67 36 54,97 37 3,80 | 3,021 3,066 3,018 3,369 3,170 | +8,8297 8,8183 8,8295 9,0535 8,8659 | +8,0261 ,0293 ,0406 ,2669 ,0769 | +0,4801 ,4866 ,4797 ,5275 ,5011 | -8,1779 -6,8502 -8,1822 +8,9638 +8,4927 |
| 81 82 83 84 85 | Phœnicis Ceti Andromed. pr | 7 7 æ. 8 7.8 8 | 2 3 4 2 4 | 37 11,24 37 29,82 37 37,22 37 40,23 39 0,11 | 2,862 3,000 3,195 3,195 3,176 | +8,9579 ,8381 ,8807 ,8808 ,8617 | +8,1745 ,0578 ,1020 ,1028 ,0991 | +0,4567 ,4771 ,5045 ,5045 ,5019 | |
| 86 87 88 89 90 | Piscium Ceti | 7.8 8 9 6 8 | 3 3 3 4 | 39 33,78 40 10,57 41 4,89 41 11,42 41 27,06 | 3,040 3,142 3,098 3,006 3,031 | +8,8205 ,8376 ,8202 ,8307 ,8217 | +8,0645 ,0883 ,0803 ,0923 ,0862 | +0,4829 ,4972 ,4911 ,4780 ,4816 | 7,8980 +8,3145 +7,9112 8,2273 8,0023 |

| No. | No. | Declination | Annual Preces- | | Logarith | ms of | | zi No. | Annual | P. M. |
|----------------------------|-------------------------|---|--|---|---|--|---|---------------------------------|---|---|
| | Obs. | Jan. 1, 1836. | sion. | a' | <i>b'</i> | c' | d' | Piazzi | A. R. | Decn. |
| 46 47 48 49 50 | 3 4 2 3 3 | -41 34 20,66 + 7 53 52,85 +43 2 23,45 -41 50 49,72 -10 59 27,68 | $^{\prime\prime}$ + 19,955 19,955 19,952 19,952 19,943 | +9,5877 $+9,6201$ $+9,3979$ $+9,5899$ $+9,6484$ | 9,8198 +9,1371 +9,8321 9,8220 9,2771 | +1,3001 ,3000 ,2998 ,2998 ,2998 | 8,9723 ,9736 ,9945 ,9945 ,9983 | 84 85 93 94 96 | s. +,009 +,015 +,001 +,006 +,015 | + ,04 - ,09 - ,01 + ,10 - ,02 |
| 51 52 53 54 55 | 2 3 2 1 | +15 6 54,09 + 3 56 25,89 -19 7 36,65 +27 22 27,75 +59 38 29,27 | 19,940 19,936 19,935 19,930 19,928 | +9,5933 +9,6294 +9,6474 +9,5263 +9,1038 | +9,4145 +8,8376 -9,5124 +9,6605 +9,9335 | +1,2997 ,2996 ,2995 ,2995 ,2995 | -9,0070 ,0119 ,0204 ,0264 ,0299 | 97 98 100 103 104 | +,006 ,000 +,010 +,0011 | - ,22 - ,02 + ,01 + ,02 - ,16 |
| 56 57 58 59 60 | 3 3 2 2 3 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 19,924 19,922 19,920 19,912 19,909 | +9,6444 $+9,6405$ $+9,6284$ $+9,0414$ $+9,2201$ | 8,9139 8,4104 +8,8481 +9,9389 +9,9012 | +1,2994 ,2993 ,2993 ,2991 ,2990 | -9,0380 ,0415 ,0437 ,0583 ,0637 | 106 107 108 112 114 | +,016 +,013 +,002 +,004 +,018 | - ,14 - ,02 + ,07 + ,06 - ,02 |
| 61 62 63 64 65 | 3 2 2 3 3 | +24 12 2,07 +10 56 30,52 +23 7 17,18 — 4 18 13,79 +34 29 42,83 | 19,897 19,885 | +9,5416 +9,6053 +9,5465 +9,6454 +9,4564 | +9,6099 +9,2762 +9,5914 -8,8698 +9,7499 | +1,2989 ,2989 ,2988 ,2985 ,2985 | -9,0702 ,0734 ,0818 ,0981 ,0981 | 116 119 121 129 128 | +,016 ,000 +,019 +,010 +,010 | ,00 -,04 |
| 66 67 68 69 70 | 3 3 3 3 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 19,862 19,856 | +9,6503 +9,6180 +9,6325 +9,6031 +9,6561 | -9,0749 +9,0840 +8,5868 +9,2626 -9,3143 | +1,2983 ,2981 ,2980 ,2979 ,2978 | -9,1128 ,1252 ,1271 ,1345 ,1390 | 132 135 137 140 142 | +,011 +,007 +,059 +,018 +,013 | - ,01 - ,01 + ,22 - ,08 - ,16 |
| 71 72 73 74 75 | | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 19,834 19,833 19,829 | +9,5539 +9,5955 +9,5587 +9,6609 +9,6191 | +9,5327 +9,3163 +9,5139 -9,5533 -9,8369 | ,2974 ,2974 | ,1603 | 145 149 150 151 153 | -,006 +,013 +,018 +,010 +,007 | ,13 ,09 ,07 + ,04 ,20 |
| 76 77 78 79 80 | 2 1 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 19,784 19,783 19,781 | +9,6609 +9,6395 +9,6618 +9,0828 +9,5092 | -9,3429 -8,0263 -9,3469 +9,9046 +9,6250 | + 1,2967 ,2963 ,2963 ,2962 ,2962 | ,2053 ,2061 ,2077 | 161 167 169 168 170 | -,007 +,027 +,016 +,023 +,018 | - ,15 - ,16 + ,14 - ,02 - ,09 |
| 81 82 83 84 85 | 3 3 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 1 19,773 4 19,771 6 19,770 | +9,6304 +9,6656 +9,4683 +9,4669 +9,5038 | -9,4670 +9,6939 +9,6941 | ,2961 ,2960 ,2960 | ,2138 ,2153 ,2161 | 173 174 175 176 184 | $\begin{vmatrix} +,015 \\ +,020 \end{vmatrix}$ | - ,08 - ,02 - ,18 - ,18 - ,12 |
| 86 87 88 86 90 | 7 4 3 3 3 3 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 2 19,733 8 19,719 9 19,717 | +9,5587 +9,6117 +9,6674 | $\begin{vmatrix} +9,4702\\ +9,0839\\ -9,3895 \end{vmatrix}$ | ,2952 ,2949 ,2948 | ,2439 ,2531 ,2544 | 188 191 197 198 200 | -,004 +,016 +, 01 9 | + ,08 - ,01 - ,09 |

| No. | Star's name and Mag. | No. | As | Right cension | Annual Preces- | | Logaritl | nms of | |
|---------------------------------|---|-------------------|------|---|--|---|---|---|---|
| | | Ubs. | Jan. | . 1, 1836. | sion. | a | b | с | d |
| 91 92 93 94 95 | Piscium 8 Phœnicis 7. Piscium 8 — 7. - 7. | 3 4 | h. 0 | m. s. 42 1,22 42 22,07 42 25,47 42 34,95 43 0,31 | s. +3,139 2,827 3,099 3,094 3,121 | +8,8339 ,9614 ,8198 ,8187 ,8256 | ,0940 | ,4512 | +8,2773 8,8052 +7,9168 +7,8403 +8,1405 |
| 96 97 98 99 100 | Piscium 8 — 8. — 8. Ceti 8 | 9 3 9 3 9 3 | | 44 48,76 44 51,99 44 53,40 45 29,76 45 30,06 | 3,151 3,083 3,091 | +8,8378 ,8361 ,8161 ,8168 ,8299 | | ,4984 ,4890 ,4901 | +8,3332 +8,3151 +7,5652 +7,7528 -8,2372 |
| 101 102 103 104 105 | Piscium 8 | 8 4 8 3 | | 46 23,00 47 53,12 47 55,89 48 27,89 48 45,72 | 3,417 3,201 3,419 | 9,0188 8,8586 9,0177 | ,3475 ,1874 ,3513 | ,5336 ,5053 ,5339 | |
| 106 107 108 109 110 | Piscium 8 Andromedæ 7 Piscium 8 ———————————————————————————————————— | 3 4 | | 48 49,56 49 16,21 49 18,79 49 35,60 49 53,60 | 3,254 3,125 3,176 | ,8905 ,8220 ,8421 | ,2315 ,1636 ,1860 | ,5124 ,4948 ,5019 | +6,7548 +8,6276 +8,1097 +8,3871 +8,1127 |
| 111 112 113 114 115 | Messoris 8 Piscium 8 | 2 3 | | 50 44,93 50 59,65 51 43,88 52 39,98 52 41,21 | 3,068 3,179 3,124 | 8,8129 8,8407 8,8193 | ,1705 ,2035 ,1901 | ,5021 ,4947 | +9,0089 -5,9756 +8,3827 +8,0724 +7,9117 |
| 116 117 118 119 120 | | 9 3 | 1 | 52 46,92 55 17,01 55 18,53 56 39,72 56 54,90 | 3,101 3,103 3,710 | 8,8131 9,1521 | ,2063 ,2141 ,5558 | ,4915 ,4918 | +8,1029 +7,8253 +7,8453 +9,1017 +8,3853 |
| 121 122 123 124 125 | Piscium seq. 8 Ceti 8 Piscium 7 Ceti 8 | 3 9 1 8 3 | | 57 22,75 57 27,74 58 13,80 58 21,96 59 48,01 | 3,200 3,005 3,186 | ,8419 ,8171 ,8346 | ,2519 ,2329 ,2520 | +0,4901 ,5051 ,4778 ,5032 ,4946 | +7,6601 +8,4095 -8,0825 +8,3535 +8,0110 |
| 126 127 128 129 130 | Phænicis 7. Piscium 8 ———————————————————————————————————— | 8 3 3 | 1 | 0 17,67 0 32,65 0 35,25 2 4,28 2 19,24 | 3,210 3,207 3,809 | 8,8415 8,8404 | ,2745 | +0,4395 ,5065 ,5061 ,5808 ,4946 | +8,4160 +8,4086 +9,1223 |
| 131 132 133 134 135 | Piscium 8 App. Sculp. 8 Piscium 7. | 3 3 8 3 | | 2 50,60 3 58,63 5 9,51 5 11,68 5 38,53 | 3,274 2,795 3,112 | +8,8397 ,8657 ,8983 ,8090 ,8283 | +8,2905 ,3247 ,3653 ,2764 ,2989 | ,5151 ,4464 | $-8,6681 \\ +7,8770$ |

| No. | No. | Declination Jan. 1, 1836. | Annual Preces- | THE RESERVE THE PROPERTY OF TH | Logarit | ıms of | | zi No. | Annual | Р. М. |
|-------------------------------------|-----------------------|---|--|--|---|---|---|---------------------------------|---|---|
| | Obs. | Jan. 1, 1000. | sion. | a' | <i>b'</i> | c' | d' | Piazzi | A. R. | Decn. |
| 91 92 93 94 95 | 4 2 4 4 3 | +16 5 53,93 -44 17 24,07 + 7 9 13,47 + 6 0 19,43 +11 53 33,44 | + 19,704 19,697 19,697 19,695 19,688 | +9,5635 +9,6434 +9,6107 +9,6159 +9,5866 | +9,4360 -9,8363 +9,0895 +9,0140 +9,3071 | +1,2946 ,2944 ,2944 ,2943 ,2942 | —9,2627 ,2667 ,2667 ,2687 ,2727 | 202 205 204 206 208 | s. +,008 +,006 +,010 -,001 +,016 | - ,01 - ,02 |
| 96 97 98 99 1 00 | 4 4 3 4 3 | +18 12 9,66 +17 30 8,69 + 3 11 43,38 + 4 54 55,71 -14 48 48,49 | 19,658 19,657 19,657 19,647 19,647 | +9,5453 +9,5502 +9,6253 +9,6180 +9,6730 | +9,4869 +9,4705 +8,7406 +8,9273 —9,3986 | +1,2935 ,2935 ,2935 ,2933 ,2933 | —9,2902 ,2909 ,2909 ,2965 ,2965 | 214 215 216 218 219 | +,005 +,003 +,015 +,007 +,014 | ,11 |
| 101 102 103 104 105 | 2 1 3 3 3 | +22 31 25,79 +51 21 4,28 +25 26 59,64 +51 14 56,75 +20 35 55,94 | 19,631 19,603 19,603 19,593 19,587 | +9,5105 +9,0334 +9,4800 +9,0334 +9,5198 | +9,5747 +9,8831 +9,6238 +9,8823 +9,5367 | +1,2929 ,2923 ,2923 ,2921 ,2920 | —9,3052 ,3191 ,3191 ,3238 ,3267 | 224 233 236 237 239 | +,028 +,012 +,013 +,021 +,026 | ,06 |
| 106 107 108 109 110 | 2 2 2 4 2 | + 0 28 28,19 +33 3 53,69 +11 9 12,34 +20 30 59,30 +11 14 28,09 | 19,587 19,578 19,577 19,572 19,566 | +9,6355 +9,3927 +9,5843 +9,5185 +9,5843 | +7,9308 +9,7269 +9,2775 +9,5347 +9,2804 | +1,2920 ,2918 ,2917 ,2916 ,2915 | —9,3267 ,3307 ,3313 ,3336 ,3365 | 240 242 244 245 247 | +,001 +,008 +,004 +,008 -,003 | - ,21 - ,17 - ,02 - ,04 - ,03 |
| 111 112 113 114 115 | 23233 | +57 28 40,80 - 0 6 15,81 +20 21 46,77 +10 17 44,36 + 7 9 0,42 | 19,542 | +8,6721 +9,6375 +9,5172 +9,5866 +9,6042 | +9,9152 $-7,1517$ $+9,5307$ $+9,2414$ $+9,0844$ | +1,2911 ,2910 ,2907 ,2903 ,2903 | —9,3438 ,3466 ,3515 ,3591 ,3597 | 248 251 253 255 256 | +,022 +,005 +,010 +,012 +,004 | + ,03 - ,32 - ,06 - ,15 - ,07 |
| 116 117 118 119 120 | 3.4 4 2 2 | +11 1 38,48 + 5 52 59,12 + 6 10 11,51 +62 53 32,75 +20 35 8,29 | 19,510 19,458 19,436 19,430 19,424 | +9,5821 +9,6096 +9,6074 -8,3222 +9,5038 | +9,2708 $+8,9991$ $+9,0189$ $+9,9360$ $+9,5327$ | +1,2902 ,2891 ,2886 ,2885 ,2883 | —9,3602 ,3801 ,3877 ,5902 ,3922 | 257 269 271 272 276 | +,011 +,007 +,021 +,014 +,005 | + ,02 ,03 ,04 ,05 ,06 |
| 121 122 123 124 125 | 3 4 4 3 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 19,414 19,412 19,396 19,392 19,360 | +9,6180 +9,4928 +9,6749 +9,5145 +9,5888 | +8,8351 +9,5537 -9,2511 +9,5045 +9,1817 | +1,2881 ,2881 ,2877 ,2876 ,2869 | —9,3957 ,3961 ,4015 ,4030 ,4130 | 281 282 288 289 297 | -,003 +,019 +,905 +,011 | - ,12 + ,07 - ,08 - ,08 |
| 126 127 128 129 130 | 4 3 2 3 3 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 19,344 19,342 19,306 | +9,6964 +9,4829 +9,4857 -8,7243 +9,5888 | -9,8130 +9,5591 +9,5527 +9,9379 +9,1634 | +1,2867 ,2865 ,2865 ,2857 ,2856 | 9,4163 ,4181 ,4186 ,4292 ,4305 | 303 302 304 312 4 | -,005 +,005 +,024 +,011 +,010 | - ,15 + ,11 - ,04 - ,05 + ,24 |
| 131 132 133 134 135 | 4 3 3 2 3 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 19,262 19,234 19,232 | +9,4800 +9,3874 +9,7126 +9,5999 +9,5092 | $ +9,6712 \\ -9,7518$ | ,2847 ,2841 ,2840 | | 7 11 18 17 21 | +,006 +,014 +,019 +,019 +,017 | + ,03 - ,12 - ,06 + ,04 + ,03 |

| No. | Star's name and | Mag. | No. Obs. | | Right scension | n | Annual Preces- | | Logarit | hms of | |
|--|--|---------------------------|----------------------------|-----------------------|---------------------------------------|---|--|---|---|---|--|
| A Security in a constant of the constant of th | | | anne gay takk a kikay ya s | Jar | a. 1, 18 | 336. | sion. | a | <i>b</i> | c | d |
| 136 137 138 139 140 | Ceti Piscium Cassiopeæ Piscium Cassiopeæ | 8 7.8 7 8 7.8 | 3 3 2 2 3 | h. 1 | 6 7 7 1 7 16 | 1,88 5,32 0,72 | *. +3,009 3,109 3,660 3,094 3,694 | +8,8106 8,8074 9,0661 8,8049 9,0714 | +8,2845 ,2877 ,5483 ,2970 ,5692 | +0,4784 ,4926 ,5635 ,4905 ,5675 | -7,9936 +7,8338 +8,9887 +7,6300 +8,9967 |
| 141 142 143 144 145 | | 8 7.8 8 8 7.8 | 3 4 | | 10 1: 10 2: 10 2: 11 11 1 | 3,42 5,28 0,63 | 3,890 3,095 3,115 3,116 3,106 | ,8055 | | +0,5899 ,4907 ,4935 ,4936 ,4922 | +7,8693 |
| 146 147 148 149 150 | Piscium Andromedæ Phænicis | 7.8 | 4 4 | | 14 4 15 1 | 4,31 3,26 5,84 0,24 9,55 | 3,459 2,645 | ,8021 ,9313 ,9464 | ,3274 ,4621 ,4793 | ,4915 ,5389 ,4224 | +7,6886 +8,7595 -8,7917 |
| 151 152 153 154 155 | Phœnicis Persei Piscium | 6.7 6.7 8 8 7 | 2 3 2 3 4 | 1.0 | 17 3 17 3 19 4 | 6 0,2 0 8 4,0 6 86,73 52,19 22,16 | 2,618 3,617 3,125 | ,9516 ,9992 ,8002 | ,4992 ,5475 ,3617 | ,4180 ,5583 ,4948 | -8,8037 +8,8895 +7,8943 |
| 156 157 158 159 160 | Piscium Andromeda 1002 Piscium | 7.8 8 7.8 7.3 | 4 8 4 8 3 | | 21 1 24 4 26 | 31,48 13,42 19,98 10,91 17,15 | 3,351 3,425 3,170 | 8,8645 8,8877 8,8015 | ,4338 ,4778 ,3991 | ,5252 ,5347 ,5011 | +8,5810 +8,6612 +8,1097 |
| 16 16 16 16 16 | Piscium App. Scul | 7 7. | 8 2 9 3 | | 27 28 29 | 48,08 42,41 57,94 27,64 25,77 | 3,616 3,169 2,822 | 9623 ,7986 ,8356 | ,4112 ,4506 | ,5582 ,5009 ,4506 | +8,8306 +8,0895 -8,4748 |
| 16 16 16 16 17 | 7 Piscium 8 Phœnicis 9 Piscium | 7 7. 8 8 8. | 8 4 | L 3 | 32 32 32 | 35,96 10,48 27,38 47,76 53,30 | 3,312 2,653 3,146 | 8,8301 8,8925 5 8,7917 | ,4601 ,5239 ,4248 | ,5201 ,4237 ,4976 | +8,4550 $-8,6846$ $+7,9494$ |
| 17 17 17 17 17 | Andromed Arietis Camelop. | æ 8 8. 7. | 8 2 9 3 8 3 8 4 | 3 3 3 1 | 33 35 36 | 22,88 34,44 56,52 18,16 27,66 | 3,697 3,256 6,57 | 7 8,9766 6 8,8090 7 9,597 | 8,6139 8,4582 9,2484 | ,5678 ,5 12 5 ,8186 | $\begin{bmatrix} -8,4046 \\ +8,8596 \\ +8,3227 \\ +9,5919 \end{bmatrix}$ |
| 17 | 77 Arietis Persei | | 8 8 | 4 4 3 4 4 | 39 39 41 | 19,0° 28,6° 49,5 1,1° 20,1° | 7 3,239 4 3,85 6 2,77 | 2 8,799 8 9,016 6 8,830 | 5 + 8,5189 1 ,4663 3 ,6853 4 ,5053 | +0,5330 ,509 ,586 ,443 | 1 +8,5751 5 +8,2451 4 +8,9265 4 -8,4882 |

| No. | No. | Declination | Annual Preces- | | Logarith | ms of | | zi No. | Annual | Р. М. |
|---|---|---|---|--|---|--|---|---|--|--|
| 110. | Obs. | Jan. 1, 1836. | sion. | a' | <i>b'</i> | c' | d' | Piazzi | A. R. | Decn. |
| 136 137 138 139 140 | 3 3 3 4 2 | - 8 47 35,27 + 6 5 13,03 + 56 45 52,91 + 3 47 53,16 + 57 20 37,10 | 19,142 | +9,6739 +9,6021 -7,6990 +9,6159 -8,2787 | -9,1646 +9,0074 +9,9034 +8,8051 +9,9048 | +1,2835 ,2830 ,2828 ,2820 ,2815 | -9,4555 ,4614 ,4630 ,4721 ,4773 | 22 28 27 34 35 | s. +,021 +,015 -,010 +,016 +,006 | + ,33 - ,05 + ,07 - ,05 + ,02 |
| 141 142 143 144 145 | 3 4 4 4 4 | +63 48 33,40 + 3 47 19,45 + 6 33 56,93 + 6 37 37,19 + 5 17 48,94 | 19,100 19,100 19,084 | -8,9031 +9,6159 +9,5977 +9,5977 +9,6064 | +9,9322 +8,8004 +9,0384 +9,0424 +8,9454 | | —9,4805 ,4817 ,4817 ,4853 ,4869 | 39 42 43 45 46 | +,077 +,011 +,019 +,022 +,013 | - ,01 - ,07 + ,02 ,00 - ,07 |
| 146 147 148 1 49 150 | 4 4 4 4 4 | +46 25 15,83 + 4 23 30,12 +42 17 2,66 -44 27 49,99 + 4 27 4,63 | 19,004 18,980 18,970 | +8,8633 +9,6117 +9,0212 +9,7292 +9,6107 | +9,8380 +8,8634 +9,8045 -9,8214 +8,8674 | ,2788 ,2783 ,2781 | ,5022 ,5071 ,5089 | 49 54 61 65 64 | | + ,11 - ,11 + ,03 + ,02 - ,07 |
| 151 152 153 154 155 | 3 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 2 18,901 3 18,897 9 18,833 | +9,2504 +9,7340 +8,1461 +9,5899 +9,4031 | -9,8266 $+9,8647$ $+9,0670$ | $\begin{array}{c c} & ,2765 \\ & ,2764 \\ \hline & ,2749 \\ \end{array}$ | ,5221 ,5228 ,5344 | 70 78 71 87 90 | ,000 +,005 +,009 | + ,02 |
| 156 157 158 159 160 | 3 4 8 | +69 10 15,0° +31 20 20,36 +36 23 38,9 +11 43 1,8 + 7 25 57,3 | 6 18,793 6 18,678 3 18,638 | $ \begin{array}{c c} -9,2253 \\ +9,2787 \\ +9,1271 \\ +9,5428 \\ +9,5821 \end{array} $ | +9,6884 +9,7429 +9,2769 | $\begin{array}{c c} 1 & ,2740 \\ 2 & ,2713 \\ 3 & ,2703 \end{array}$ | 5413 3 ,5595 3 ,5660 | 86 93 104 112 114 | $\begin{vmatrix} +,012 \\ +,007 \\ +,012 \end{vmatrix}$ | + ,09 + ,07 - ,04 |
| 161 162 163 164 164 | $\begin{bmatrix} 2 & 4 \\ 3 & 4 \\ 4 & 4 \end{bmatrix}$ | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $\begin{vmatrix} +8,2304 \\ +9,5465 \\ +9,7459 \end{vmatrix}$ | $\begin{vmatrix} +9,835 \\ +9,257 \\ -9,605 \end{vmatrix}$ | 2 ,2 68 2 , 267 | 2 ,5733 3 ,5788 9 ,5810 | $\begin{array}{ c c c c c } & 12.5 \\ & 12.6 \\ & & 13.6 \end{array}$ | $\begin{vmatrix} + 027 \\ 4 \\ + 028 \end{vmatrix}$ | $\begin{vmatrix} + & 05 \\ 7 & + & 02 \\ 3 & - & 02 \end{vmatrix}$ |
| 160 160 160 160 160 170 | 7 3 8 3 9 4 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 94 18,434 43 18,427 08 18,417 | $\begin{vmatrix} +9,359 \\ +9,767 \\ +9,570 \end{vmatrix}$ | $ \begin{vmatrix} +9,588 \\ 2 & -9,755 \\ 5 & +9,120 \end{vmatrix} $ | 6 ,265 6 ,265 9 ,265 | 57 55 55 5948 52 5963 | 14 14 14 | 5 +,01 7 +,00 9 +,00 | $ \begin{vmatrix} 1 & - & 09 \\ 8 & + & 17 \\ 6 & + & 01 \end{vmatrix} $ |
| 17 17 17 17 | 2 9 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | ,21 18,30 ,49 18,29 | $ \begin{vmatrix} -8,380 \\ +9,442 \\ 1 \end{vmatrix} $ $ \begin{vmatrix} -9,527 \end{vmatrix} $ | $\begin{array}{c c} 12 & +9,848 \\ 25 & +9,47 \\ 6 & +9,95 \end{array}$ | ,269 ,44 ,51 ,269 | 5998 6099 6116 75998 | $ \begin{array}{c c} $ | $\begin{vmatrix} 62 \\ +02 \\ +00 \end{vmatrix}$ | $\begin{bmatrix} 27 & - & , 20 \\ 06 & - & , 00 \\ + & , 00 \end{bmatrix}$ |
| 17 | 77 78 79 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | ,83 18,17 ,76 1 8,16 | $ \begin{vmatrix} 8 & +9,475 \\ 8 & -8,955 \\ 8 & +9,76 \end{vmatrix} $ | $57 \mid +9,40 \\ 90 \mid +9,86 \\ 34 \mid -9,61$ | 36 ,25 374 ,25 39 ,25 | $\begin{array}{c c} 95 & ,624 \\ 92 & ,626 \end{array}$ | $ \begin{array}{c cccc} 6 & 1 \\ 2 & 1 \\ 1 & 1 \end{array} $ | $ \begin{array}{c c} 71 & -,03 \\ 74 & +,00 \\ 73 & +,00 \\ 80 & +,0 \end{array} $ | $ \begin{array}{c c} 01 & + & ,0 \\ 20 & - & ,0 \\ + & ,0 \end{array} $ |

| No. | Star's name and M | | lo. bs. | Ri Asce Jan. 1, | ght ension | Annual Preces- sion. | | Logarit | hms of | |
|--|--|--------------------------------|-----------------------|-----------------------|---|--|---|-------------------------------------|---|---|
| | | ļ | | Jan. 1, | 1030. | Sion. | a | b | c | d |
| 181 182 183 184 185 | Piscium Ceti Mesarthim Cassiopeæ Andromedæ | 9 8 8 7.8 7.8 | 2 4 2 4 4 | 44 45 | s. 8,76 20,57 32,60 32,67 45,29 | s. +3,102 3,171 3,265 5,315 3,703 | +8,7789 8,7846 8,8000 9,3676 8,9345 | 9,0644 | +0,4916 ,5012 ,5139 ,7255 ,5685 | +7,5434 +8,0250 +8,3018 +9,3529 +8,7938 |
| 186 187 188 189 190 | Ceti Piscium Cassiopeæ Ceti Andromedæ | 8 8 8 7.8 7.8 | 5 4 2 3 2 | 51 52 53 | 36,77 50,53 54,97 13,16 52,61 | 3,135 3,108 4,345 3,147 3,634 | 8,7706 9,1209 8,7718 | ,4966 ,8520 ,5038 | ,4925 | +7,8025 +7,5705 +9,0731 +7,8638 +8,7156 |
| 191 192 193 194 195 | Arietis Ceti Persei Ceti | 7.8 8 8 8.9 8 | 4 2 5 4 8 | 58 58 59 | 4,63 5 11,12 8 56,85 9 5,80 9 38,64 | 3,010 3,162 3,969 | ,7682 ,7667 ,9885 | ,5091 ,5244 ,7470 | ,4786 ,5000 ,5987 | $ -7,7171 \ +7,9147 $ |
| 196 197 198 199 200 | | 8 8 8 var. | 4 2 4 4 3 | | 0 51,73 2 11,79 3 48,61 4 24,63 4 30,79 | 3,324 3,306 3,030 | ,787 <i>8</i> 3 ,7814 0 ,7569 | 5 ,5594 4 ,5605 6 ,5383 | ,5217 ,5193 ,4814 | +8,3342 +8,2955 -7,4969 |
| 201 202 203 204 205 | Ceti Persei Andromedæ | 7.8 7 7.8 8 8.9 | 3 5 5 2 4 | | 5 22,59 5 25,43 5 27,52 5 54,30 6 2,12 | $ \begin{array}{c c} 3,022\\ 4,113\\ 3,847 \end{array} $ | 8,7561 9,0106 8,9301 | ,5417 ,7968 ,7180 | ,4803 ,6142 ,5851 | -7,5756 +8,9306 +8,8021 |
| 206 207 208 209 210 | Persei Trianguli | 7.8 7 8 8 7.8 | 3 1 4 3 3 | | 6 10,72 7 37,01 7 55,24 7 55,59 8 0,26 | 4,133 4 3,445 9 3,445 | 9,0093 8,8062 8,8062 | ,804 <i>5</i> 2 ,6026 2 ,6026 | ,6163 ,5372 ,5372 | +8,4778 +8,4778 |
| 211 212 213 214 215 | Eridani Ceti | 8 9 7.8 7.8 11 | 2 3 4 2 1 | | 8 33,10 8 44,04 8 46,63 8 47,98 | 3,125 3,125 2,431 3,125 2,977 | ,7526 1 ,8788 7 ,7547 | 5523 6788 5547 | ,4948 3,3858 4738 | +7,6584 -8,7028 -7,8597 |
| 216 217 218 218 219 220 | 7 Ceti | 7.8 8 9.10 8.9 7.8 | 4 3 3 4 | 1 | 12 42,2,6 12 51,69 13 20,79 13 21,09 13 23,69 | 3,158 3,026 8 3,05 | 7494 7464 745 | 5664 5656 7 ,5648 | 4994 3 ,4800 5 ,4849 | +7,8364 -7,5562 -7,0223 |
| 22 22 22 22 22 22 | 2 Ceti 3 Persei 4 Arietis | 7.8 8.9 8 7.8 7 | 4 | | 15 56,0 16 43,6 16 51,7 16 55,0 17 2 3,1 | $egin{array}{c c} 3,06 \\ 1 & 4,02 \\ 2 & 3,19 \\ \end{array}$ | 7 ,741 6 ,950 8 ,747 | 574 1 ,783 4 ,581 | ,486 7 ,6049 0 ,5049 | 7 = 5,9040 9 = 48,8456 9 = 47,9776 |

| | No. | Declination | Annual | | Logaritl | ams of | | No. | Annual | P. M. |
|---------------------------------|-----------------------|---|--|---|---|---|---|---------------------------------|--|---|
| No. | Obs. | Jan. 1, 1836. | Preces- sion. | a' | <i>b'</i> | c' | d' | Piazzi | A. R. | Decn. |
| 181 182 183 184 185 | 4 4 2 4 4 | + 3 18 51,23 + 9 59 44,00 +18 29 32,36 +75 8 52,66 +46 17 30,49 | + 18,040 18,033 17,987 17,945 17,859 | +9,6107 +9,5453 +9,4330 -9,5051 -8,4472 | +8,7187 +9,1944 +9,4548 +9,9373 +9,8091 | +1,2562 ,2560 ,2549 ,2539 ,2518 | -9,6395 ,6403 ,6447 ,6488 ,6570 | 189 191 196 195 207 | s. +,005 +,011 +,007 +,037 +,005 | ,00 - ,22 + ,15 - ,07 + ,09 |
| 186 187 188 189 190 | 4 4 4 4 2 | + 6 7 15,70 + 3 35 27,02 +63 35 33,51 + 7 4 18,39 +41 32 26,99 | 17,706 17,695 17,647 17,639 17,612 | +9,5821 +9,6053 -9,3655 +9,5705 +7,9031 | +8,9761 $+8,7458$ $+9,8969$ $+9,0365$ $+9,7657$ | +1,2481 ,2478 ,2467 ,2465 ,2458 | —9,6709 ,6718 ,6759 ,6766 ,6789 | 227 228 230 234 237 | +,008 ,000 +,009 +,021 +,017 | + ,05 + ,03 + ,06 — ,08 — ,08 |
| 191 192 193 194 195 | 3 4 4 4 5 | +25 7 40,17 -5 7 25,14 +8 3 40,93 +53 32 56,16 +8 4 6,01 | 17,562 17,556 17,396 17,387 1 7,367 | +9,2742 +9,6767 +9,5563 -9,1523 +9,5563 | +9,5710 -8,8914 +9,0865 +9,8438 +9,0858 | +1,2446 ,2445 ,2404 ,2402 ,2397 | —9,6830 ,6835 ,6961 ,6968 ,6983 | 245 246 258 255 261 | +,014 +,018 +,014 +,035 +,011 | - ,17 - ,07 - ,00 - ,14 - ,10 |
| 196 197 198 199 200 | 4 4 4 4 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 17,177 | +9,6628 +9,3560 +9,3838 +9,6637 +9,6031 | -8,6694 $+9,4815$ $+9,4471$ $-8,6723$ $+8,7220$ | +1,2383 ,2368 ,2350 ,2343 ,2342 | -9,7024 ,7067 ,7 120 ,7137 ,7141 | 265 1 12 17 19 | +,001 +,031 +,007 +,028 +,009 | - ,02 + ,02 - ,08 - ,08 - ,02 |
| 201 202 203 204 205 | 2 3 4 4 2 | +56 15 42,10 - 3 48 4,41 +56 17 17,27 +48 6 40,02 +57 15 19,79 | 17,108 17,108 17,102 17,084 17,078 | -9,2833 +9,6693 -9,2856 -8,9956 -9,3117 | +9,8512 -8,7507 +9,8511 +9,8026 +9,8553 | +1,2332 ,2332 ,2330 ,2326 ,2324 | —9,7168 ,7168 ,7173 ,7185 ,7189 | 21 26 22 25 24 | +,013 +,013 +,014 +,017 +,002 | + ,03 + ,05 + ,11 - ,01 + ,03 |
| 206 207 208 209 210 | 3 4 3 | $\begin{array}{c} + \ 0 \ 54 \ 31,15 \\ +56 \ 22 \ 23,96 \\ +27 \ 59 \ 2,02 \\ +27 \ 59 \ 2,42 \\ + \ 1 \ 28 \ 26,94 \end{array}$ | 17,005 16,992 16,994 | $ \begin{vmatrix} +9,6284 \\ -9,3032 \\ +9,1271 \\ +9,1271 \\ +9,6232 \end{vmatrix}$ | +8,1422 +9,8491 +9,5999 +9,5999 +8,3461 | | —9,7193 ,7238 ,7246 ,7246 ,7248 | 31 35 38 39 40 | +,014 +,002 +,028 +,019 +, 0 09 | - ,05 + ,10 + ,29 - ,09 + ,07 |
| 211 212 213 214 215 | 2 4 3 2 6 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 16,954 16,954 16,951 | $ \begin{array}{r} +9,6693 \\ +9,5911 \\ +9,8319 \\ +9,6972 \\ +9,6702 \end{array} $ | -9,7512 -9,0322 | ,2293 ,2292 ,2292 | ,7272 | 44 45 50 48 57 | ,009 | + ,03 - ,12 + ,03 + ,03 - ,17 |
| 216 217 218 219 220 | 4 4 4 4 4 | $ \begin{vmatrix} +40 & 43 & 38,09 \\ +6 & 59 & 54,75 \\ -3 & 42 & 47,68 \\ -1 & 6 & 14,24 \\ +0 & 12 & 55,85 \end{vmatrix} $ | 16,758 16,732 16,734 | $ \begin{array}{c c} -8,4624 \\ +9,5611 \\ +9,6712 \\ +9,6474 \\ +9,6355 \end{array} $ | $\begin{vmatrix} +9,0092\\ -8,7314\\ -8,1983 \end{vmatrix}$ | ,2242 ,2236 ,2237 | ,7392 ,7407 ,7405 | 62 63 67 66 68 | +,002 +,001 +,008 | + ,07 + ,07 - ,14 |
| 221 222 223 224 225 | 4 | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 16,571 3 16,561 0 16,561 | +9,6385 $-9,2430$ $+9,5211$ | $\begin{bmatrix} -7,0801 \\ +9,8127 \\ +9,1474 \end{bmatrix}$ | ,2193 ,2191 1 ,2191 | ,7502 ,7507 ,7507 | 78 82 | +,016 +,016 +,016 | $\begin{vmatrix} - & ,21 \\ + & ,08 \\ - & ,17 \end{vmatrix}$ |

| No. | Star's name and | Mag. | No. Obs. | | Rig scen | sion | Annual Preces- | | Logarit | hms of | |
|---------------------------------|---|-----------------------------|--------------------------------------|---------|----------------|---|---|---|---|---|---|
| | | | 0 22. | Jan | ı. I, | 1836. | sion. | а | <i>b</i> | c | d |
| 226 227 228 229 230 | Trianguli Persei Ceti Trianguli | 8 10 8 9 8 | 5 3 4 5 3 | h. 2 | 19 22 24 | s. 35,21 8,74 12,35 20,50 55,43 | s. +3,492 3,490 3,592 3,154 3,605 | +8,7977 ,7962 ,8152 ,7337 ,8104 | +8,6380 ,6387 ,6704 ,5971 ,6801 | +0,5431 ,5428 ,5553 ,4989 ,3569 | +8,4853 +8,4813 +8,5624 +7,7706 +8,5582 |
| 231 232 233 234 235 | Persei Ceti Arietis Persei Ceti | 8 8.9 8 7.8 9 | 4 | | 28 29 | 6,64 18,64 53,16 18,26 22,25 | 4,016 3,010 3,234 3,997 2,887 | +8,9171 ,7282 ,7335 ,9059 ,7313 | +8,7918 ,6032 ,6151 ,7891 ,6226 | +0,6038 ,4786 ,5097 ,6017 ,4604 | +8,8000 -7,5894 +8,0357 +8,7828 -8,0644 |
| 236 237 238 239 240 | Ceti Trianguli Ceti Persei | 7.8 8 9 8.9 8.9 | 3 4 5 | | 34 35 35 | 30,10 53,84 20,11 55,89 41,90 | 3,528 3,099 3,141 | +8,7213 ,7730 ,7154 ,7158 ,9129 | +8,6169 ,6780 ,6220 ,6247 ,8251 | +0,4978 ,5475 ,4912 ,4971 ,6136 | +8,4556 |
| 241 242 243 244 245 | Ceti Persei Ceti Arietis Persei | 7 9 7.8 7.8 | 3 2 2 4 4 | | 37 37 | 58,72 | 4,029 3,141 3,243 | ,8903 ,7132 ,7200 | ,8061 ,6286 ,6368 | ,6052 ,4971 ,5109 | +8,7649 $+7,7462$ $+8,0233$ |
| 246 247 248 249 250 | Fornacis Persei Fornacis Eridani | 8.9 9.8 9.9 | 9 4 | | 40 42 42 | 24,31 32,07 26,54 29,59 26,56 | 4,154 2,503 2,536 | ,9131 ,7805 ,7729 | ,8399 ,7143 , 70 70 | ,6185 ,3985 ,4041 | +8,8068 $-8,5168$ $-8,4906$ |
| 251 252 253 254 255 | 248 | 7 8. 7. 7. | 8 5 8 3 | | | l 1,56 | $\begin{vmatrix} 4,210 \\ 3,760 \\ 3,715 \end{vmatrix}$ | 8,9003 8,7919 8,7785 | ,8605 ,7543 ,7454 | ,6243 ,5752 ,5700 | +8,7951 +8,5764 +8,5423 |
| 256 257 258 259 260 | Arietis Persei | 7. | | 3 | 3 (| 2 52,38 0 2,02 0 28,53 2 0,76 2 2,73 | 3,273 1 3,351 3 4,110 | ,6829 ,6907 ,8392 | ,6839 ,6932 ,8481 | ,5150 ,5252 ,6138 | (+8,0096) (+8,1479) (+8,7069) |
| 261 262 263 264 264 | Eridani Tauri | 6. 8 8 | .8 4 .7 5 .9 5 .9 4 .8 3 | | | 3 15,19 4 55,69 5 22,3 7 57,79 0 27,8 | 8 2,517 6 3,623 3 3,366 | 7 8,7249 5 8,7248 6 8,6768 | 8,7444 8,7460 8,7078 | ,4009 ,5593 ,527 | -8,420 +8,423 |
| 260 260 260 260 270 | 7 Persei 8 Camelop. | 8 | .9 | | 1 1 | 3 52,3 5 58,1 6 25,6 7 44,8 8 19,0 | 9 4,23; 1 4,21 1 4,51 | 823 1 ,818 0 ,875 | 7 ,8856 0 ,8816 9 ,944 | 624 64 654 654 | 5 +8,701 4 +8,699 2 +8,78 |

| | No. | No. Obs. | Declination Jan. 1, 1836. | Annual Preces- | | Logarit | hms of | | i No. | Annua | 1 P. M. |
|--|---------------------------------|-----------------------|--|---|---|---|---|--|---------------------------------|---|---|
| | | 003. | | sion. | a' | b' | c' | d' | Piazzi | A. R. | Decn. |
| on Military was managed by the contract of the | 226 227 228 229 230 | 4 2 4 3 4 | +29 7 59,73 +28 56 54,30 +33 56 53,69 + 6 13 47,29 +34 0 13,33 | +16,477 16,452 16,295 16,188 16,140 | +9,0086 9,0128 8,5401 9,5647 8,4314 | +9,6026 9,5994 9,6572 8,9441 9,6527 | +1,2169 ,2162 ,2120 ,2092 ,2070 | -9,7553 ,7568 ,7652 ,7706 ,7747 | 89 92 103 111 117 | *. +,017 +,008 +,030 +,035 | -0,02 -,04 ,00 +,11 -,08 |
| Section of the commence of the commence of the commence of | 231 232 233 234 235 | 4 4 2 4 | +49 46 22,00 - 4 10 43,13 +11 33 12,77 +48 50 51,86 -12 27 34,61 | 16,039 16,032 15,948 15,926 15,819 | 9,2504 +9,6785 +9,4829 9,2355 +9,7451 | +9,7861 -8,7644 +9,2028 +9,7770 -9,2302 | +1,2052 ,2051 ,2027 ,2021 ,1991 | —9,7779 ,7781 ,7823 ,7833 ,7884 | 119 127 134 133 145 | +,007 ,016 ,024 ,024 ,013 | - ,17 + ,04 + ,04 + ,02 ,00 |
| n. Differencement functional property | 236 237 238 239 240 | 4 5 2 4 4 | + 5 21 49,08 +28 45 47,06 + 2 7 2,94 + 4 57 30,15 +50 51 30,43 | 15,754 15,625 15,602 15,569 15,525 | +9,5729 +8,8921 +9,6138 +9,5775 —9,3365 | +8,8677 9,5744 8,4621 8,8291 9,7787 | +1,1974 ,1938 ,1932 ,1923 ,1909 | —9,7911 ,7968 ,7978 ,7978 ,7992 ,8013 | 151 160 163 165 169 | +,002 ,007 ,006 ,016 ,004 | - ,06 - ,04 - ,05 - ,17 + ,04 |
| and differential accountable and a second | 241 242 243 244 245 | 2 4 3 4 | + 4 1 0,01 +48 29 35,28 + 4 53 55,45 +11 34 9,04 +51 35 50,55 | 15,525 15,470 15,481 15,459 15,391 | +9,5899 -9,2765 +9,5775 +9,4728 -9,3674 | +8,7362 9,7621 8,8207 9,1904 9,7796 | +1,1910 ,1895 ,1897 ,1891 ,1873 | -9,8010 ,8034 ,8030 ,8040 ,8066 | 171 172 174 177 180 | +,016 ,013 ,023 ,019 ,006 | - ,04 - ,08 - ,23 + ,01 + ,17 |
| disclared freedomical decrees your proportion to property | 246 247 248 249 250 | 4 5 4 4 5 | -38 2 6,63 +51 31 6,60 -33 3 46,08 -31 29 54,32 - 9 31 23,11 | 15,320 15,309 15,207 15,203 15,030 | +9,8686 -9,3711 +9,8567 +9,8513 +9,7300 | —9,6728 + ,7767 — ,6164 — ,5976 — ,0926 | +1,1853 ,1849 ,1820 ,1819 ,1770 | -9,8094 ,8099 ,8139 ,8140 ,8205 | 187 184 196 197 209 | +,025 ,021 ,007 ,004 ,004 | + ,01 + ,09 + ,24 + ,04 - ,07 |
| elitore - e-e-e-e-e-e-e-e-e-e-e-e-e-e-e-e-e-e | 251 252 253 254 255 | 6 2 4 4 4 | +60 37 31,65 +51 41 40,02 +37 28 25,27 +35 27 38,65 -40 57 52,78 | 14,947 14,805 14,772 14,702 14,647 | -9,5658 -9,4150 -8,8261 -8,6232 +9,8893 | +9,8128 +,7633 +,6520 +,6292 -,6803 | +1,1745 ,1704 ,1695 ,1674 ,1657 | -9,8237 ,8287 ,8298 ,8323 ,8342 | 211 222 223 227 239 | +,012 -,006 -,006 +,002 -,007 | + ,09 + ,10 - ,05 - ,17 + ,04 |
| Section of the Contract of the | 256 257 258 259 260 | 4 4 4 3 4 | -33 9 47,92 +12 13 37,17 +16 37 56,72 +47 29 17,27 +47 33 15,82 | 14,595 14,157 14,132 14,032 14,032 | +9,8681 +9,4377 +9,3284 -9,3674 -9,3692 | -9,6001 + ,1751 + ,3054 + ,7126 + ,7131 | +1,1642 ,1509 ,1502 ,1470 ,1470 | —9,8359 ,8500 ,8507 ,8539 ,8539 | 243 263 266 268 269 | ,000 +,013 ,010 ,000 ,008 | - ,02 - ,08 - ,02 - ,14 - ,02 |
| Telephonesing Conversation of the Constitution | 261 262 263 264 265 | 2 4 4 4 6 | +65 2 26,76 -29 46 56,94 +29 56 23,31 +16 57 55,28 +18 28 32,25 | 13,948 13,852 13,822 13,657 13,498 | -9,6702 +9,8669 +8,1461 +9,3032 +9,2480 | +9,8001 ,5354 + ,5369 + ,2989 + ,3298 | +1,1445 ,1415 ,1406 ,1353 ,1303 | —9,8562 ,8590 ,8598 ,8645 ,8688 | 1 10 9 21 33 | +,001 -,010 -,001 +,015 ,012 | - ,07 - ,09 - ,10 + ,06 + ,08 |
| CONTACTOR AND SECURITY OF SECURITY SECU | 266 267 268 269 270 | 4 2 1 4 2 | +20 22 43,16 +49 1 10,61 +48 28 57,05 +54 47 57,10 +47 24 13,98 | 13,278 13,132 13,101 13,017 12,977 | +9,1643 —9,4579 —9,4456 —9,5694 9,4265 | +9,3633 ,6945 ,6898 ,7249 ,6783 | +1,1231 ,1183 ,1173 ,1145 ,1132 | —9,8747 ,8782 ,8790 ,8810 ,8820 | 46 52 53 58 61 | +,008 -,002 +,008 +,005 +,023 | - ,16 + ,01 - ,09 + ,10 + ,10 |

| No. | Star's name and | Mag. | No. Obs. | $\mathbf{A}\mathbf{s}$ | Righ scens | ion | Annual Preces- | | Logari | thms of | And the second section of the section of t |
|---------------------------------|---|------------------------------|-----------------------|------------------------|--------------------------|--|--|---|---|---|--|
| | | | 74. | | | 836. | sion. | а | ь | С | d |
| 316 317 318 319 320 | Eridani Tauri ———————————————————————————————————— | 9.10 8 8 9 8 | 2 3 5 4 3 | h. 4 | 4 4 4 5 6 4 7 2 | s. 10,96 59,87 12,60 29,97 7,40 | s. +2,919 3,287 3,187 3,207 4,512 | +8,5100 ,5128 ,5015 ,4997 ,6756 | +8,7701 ,7745 ,7710 ,7731 ,9704 | +0,4652 ,5168 ,5084 ,5061 ,6544 | -7,6110 +7,7782 +7 5061 +7'5710 +8,5628 |
| 321 322 323 324 325 | Tauri Horologü Tauri Camelop. Tauri | 9 6.7 8 9 7.8 | 2 4 | | 14 16 3 17 3 | 26,16 5,71 35,81 38,42 17,38 | 3,067 1,886 3,532 10,067 3,538 | +8,4787 8,6206 8,4928 9,2237 8,4864 | +8,7744 8,9238 8,8085 9,5466 8,8105 | +0,4867 ,2755 ,5480 1,0029 0,5488 | -6,2212 +8,4674 +8,0494 +9,2202 +8,0457 |
| 326 327 328 329 330 | Tauri Camelop. Tauri Persei Tauri | 8 8 9.10 9 8 | 3 4 4 4 | | 20 3 21 5 22 3 | 58,63 32,93 54,56 32,87 3,31 | 3,413 10,208 3,379 4,194 3,505 | +8,4701 9,2206 8,4548 ,5724 ,4492 | 8,7968 ,9177 | +0,5331 1,0090 0,5288 0,6226 0,5447 | 7,8490 8,4041 |
| 331 332 333 334 335 | Tauri Eridani | 9 8 8.9 9.10 7.8 | 2 | | 27 2 29 1 29 2 | 85,20 27,67 17,19 29,06 29,26 | 3,281 2,882 2,878 3,004 2,341 | ,4222 ,4143 | ,7942 | ,4597 ,4591 ,4777 | +7,6614 -7,5986 -7,5973 -7,1228 -8,1830 |
| 336 337 338 339 340 | Eridani Tauri Eridani | 8 7 8.9 8.9 6.8 | 4 | | 31 1 31 2 32 2 | 58,30 14,99 26,47 22,26 27,19 | 2,882 2,796 2,303 3,585 2,527 | +8,4064 ,4106 ,4697 ,4295 ,4177 | ,8009 ,8611 | +0,4597 ,4465 ,3623 ,5545 ,4026 | -7,5786 -7,7437 -8,1906 +8,0147 -8,0182 |
| 341 342 343 344 345 | 2 ^d 55 Eridani Tauri Eridani | 7.8 9 8 8 7 | 4 4 4 3 4 | | 35 <i>8</i> 36 3 | 43,32 54,90 81,58 56,16 1,39 | 2,993 3,485 | +8,3841 ,3784 ,3976 ,4230 ,3988 | +8,7995 ,7949 ,8176 ,8506 ,8272 | +0,4577 ,4761 ,5422 ,3795 ,4104 | 7,1599 +7,899 1 |
| 346 347 348 349 350 | Camelop. Tauri Camelop. Orionis Cel. Sculp. | 8 7.8 8 8.9 | 4 | | 40 40 41 2 | 10,12 8,98 56,02 28,84 12,04 | 5,901 3,419 6,109 3,215 2,173 | +8,7588 ,3726 ,7684 ,3521 ,4288 | +9,1891 8,8135 9,2153 8,8010 8,8877 | +0,7709 ,5339 ,7860 ,5072 ,3371 | +8,7200 +7,8026 +8,7341 +7,4169 -8,1913 |
| 351 352 353 354 355 | Eridani Cel. Sculp. Camelop. Orionis Camelop. | 8 7.8 7.8 9 | | | 43 5 45 5 46 I | 37,98 56,10 55,11 6,41 25,98 | 2,943 2,172 7,447 2,991 5,830 | +8,3398 ,4248 ,8788 ,3225 ,7003 | +8,8016 8,8882 9,3568 8,8020 9,1809 | +0,4688 ,3367 ,8720 ,4758 ,7657 | |
| 356 357 358 359 360 | Eridani Orionis Camelop. Orionis Tauri | 9 8 8.9 8.9 9 | | | 48 2 48 4 49 3 | 1,20 24,14 16,78 86,17 89,35 | 2,944 3,135 5,289 3,099 3,393 | 8,3148 ,3110 ,6107 ,3034 ,3165 | +8,8043 8,8031 9,1063 8,8033 8,8169 | +0,4689 ,4962 ,7234 ,4912 ,5306 | -7,3029 +7,3460 +8,5490 +6,6965 +7,7092 |

| No. | No. Obs. | Declination Jan. 1, 1836. | Annual Preces- | | Logarith | ims of | | zi No. | Annual | Р. М. |
|---------------------------------|-----------------------|---|--|---|---|---|---|---------------------------------|---|--|
| | Obs. | Jan. 1, 1000. | sion. | a' | <i>b'</i> | c' | d' | Piazzi | A. R. | Decn. |
| 316 317 318 319 320 | 4 4 4 5 3 | - 7 15 32,02 +10 36 13,10 + 5 47 10,52 + 6 44 51,33 +50 27 31,31 | +9,651 9,625 9,492 9,430 9,068 | +9,7332 +9,4232 +9,5353 +9,5145 9,6149 | -8,7836 +8,9468 +8,6799 +8,7440 +9,5428 | +0,9846 ,9834 ,9774 ,9748 ,9575 | 9,9427 ,9431 ,9448 ,9456 ,9503 | 15 16 24 28 44 | *. +,024 +,010 -,001 +,009 +,018 | +0,06 -,10 -,29 -,07 +,17 |
| 321 322 323 324 325 | 4 2 4 4 | - 0 19 25,37 -44 40 3,36 +21 5 32,03 +80 12 4,43 +21 14 56,21 | 9,048 8,928 8,723 8,608 8,587 | +9,6425 +9,9722 +8,9085 -9,9117 +8,8808 | -7,3973 -9,4956 +9,1953 +9,6265 +9,1914 | +0,9568 ,9507 ,9407 ,9349 ,9338 | —9,9505 ,9520 ,9544 ,9557 ,9560 | 52 65 76 59 82 | +,014 +,022 +,018 +,022 +,019 | - ,02 - ,38 + ,04 - ,08 + ,09 |
| 326 327 328 329 330 | 3 4 4 4 | +15 55 46,11 +80 19 15,02 +14 19 +42 43 57,80 +19 37 28,03 | 8,534 8,375 8,301 8,248 7,965 | +9,2253 9,9154 +9,2878 9,4757 +9,0043 | +9,0682 +9,6148 +9,0113 +9,4461 +9,1256 | +0,9311 ,9230 ,9191 ,9163 ,9012 | 9,9566 ,9583 ,9591 ,9597 ,9627 | 86 77 106 107 119 | +,009 +,032 +,010 -,008 +,011 | + ,07 - ,11 - ,03 - ,07 |
| 331 332 333 334 335 | 3 4 3 4 4 | + 9 49 34,73 - 8 38 6,83 - 8 45 47,06 - 2 58 49,90 - 31 3 11,00 | 7,928 7,858 ,7,713 7,697 7,616 | +9,4330 9,7536 9,7551 9,6821 9,9289 | +8,8311 -8,7698 -8,7683 -8,2983 -9,2920 | +0,8999 ,8953 ,8872 ,8863 ,8817 | —9,9630 ,9638 ,9652 ,9653 ,9661 | 127 131 141 142 151 | +,006 +,001 +,005 +,006 -,010 | ,16 + ,02 + ,18 + ,07 ,04 |
| 336 337 338 339 340 | 2 3 2 4 | - 8 33 -12 27 10,10 -31 44 31,85 +22 37 15,56 -23 29 33,58 | 7,579 7,557 7,541 7,460 7,215 | +9,7536 9,7945 9,9325 8,6335 9,8865 | 8,9094 | +0,8796 ,8783 ,8774 ,8727 ,8583 | —9,9665 ,9667 ,9669 ,9676 ,9699 | 152 154 156 158 171 | -,004 +,012 +,008 ,001 +,014 | + ,02 + ,04 - ,08 + ,06 |
| 341 342 343 344 345 | 4 4 | - 9 6 29,35 - 3 28 41,50 +18 29 37,46 -28 15 22,07 -21 35 19,32 | 7,188 7,172 7,123 7,014 7,003 | 9,6893 | -8,7537 -8,3352 +9,0522 9,2191 9,1090 | +0,8566 ,8556 ,8527 ,8460 ,8453 | —9,9701 ,9702 ,9707 ,9716 ,9717 | 173 174 177 188 186 | -,010 +,023 +,002 +,014 +,016 | + ,04 + ,03 - ,01 + ,08 + ,03 |
| 346 347 348 349 350 | 3 4 4 | +66 \ 9 \ 1,11 +15 \ 35 \ 45,34 +67 \ 30 \ 1,61 + 6 \ 39 \ 36,84 -35 \ 22 \ 46,52 | 6,976 6,828 6,746 6,718 6,580 | -9,8338 +9,2175 -9,8476 +9,5079 +9,9542 | +8,9624 | +0,8436 ,8343 ,8290 ,8272 ,8183 | —9,9720 ,9732 ,9739 ,9741 ,9752 | 180 194 193 205 220 | -,037 +,026 -,009 +,012 +,019 | ,00 -,01 +,06 +,09 +,03 |
| 351 352 353 354 355 | 2 2 4 | - 5 39 32,89 -35 23 12,90 +73 50 27,53 - 3 29 52,83 +65 18 38,30 | 6,520 6,324 6,321 | +9,7202 +9,9547 -9,8976 +9,6911 -9,8338 | -8,5070 -9,2748 +9,4817 -8,2845 +9,4554 | ,8010 ,8008 | —9,9755 ,9757 ,9772 ,9772 ,9775 | 219 223 218 238 225 | | $\begin{bmatrix} - ,03 \\ + ,08 \end{bmatrix}$ |
| 356 357 358 359 360 | 2 4 4 | $ \begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$ | 6,144 6,100 6,044 | +9,7202 +9,5821 -9,7853 +9,6128 +9,2672 | +8,2101 $+9,4216$ $+7,8724$ | ,7884 ,7853 ,7813 | ,9786 ,9789 ,9793 | 248 249 242 258 255 | -,013 +,015 | + ,03 - ,20 + ,04 |

| | No. | Star's name | and Mag. | No. Obs. | Right Ascension Jan. 1, 1836. | Annual Preces- | | Logari | thms of | |
|--|---------------------------------|---|-------------------------------|------------------------|--|--|--|---|---|--|
| | | | | | | | æ | b | c | d |
| | 361 362 363 364 365 | Orionis Eridani Orionis | 8.9 7 8.9 8 8.9 | 3 | h. m. s. 4 50 59,82 51 19,89 51 28,95 53 28,81 53 31,67 | s. +3,296 3,280 2,652 3,086 3,099 | +8,3016 ,2987 ,3138 ,2794 ,2791 | +8,8109 ,8102 ,8262 ,8055 ,8056 | | +7,5477 +7,5140 -7,8050 +6,4333 +6,6618 |
| Contraction of the Contraction o | 366 367 368 369 370 | 2 Leporis Orionis Aurigæ Orionis | 5 9 8.9 8.9 | 3 4 4 3 4 | 54 18,92 57 59,08 58 50,73 59 31,40 5 2 1,12 | 2,594 3,208 2,947 4,439 2,976 | +8,3020 ,2520 ,2458 ,4024 ,2221 | +8,8337 ,8105 ,8103 ,9728 ,8110 | +0,4140 ,5062 ,4694 ,6473 ,4736 | -7,8420 +7,2854 -7,2181 +8,2646 -7,0729 |
| October 1880 of product of the State of | 371 372 373 374 375 | Orionis Camelop. Orionis | 7.8 7 8 9 7.8 | 4 3 4 4 4 | 2 54,87 3 11,95 4 17,46 5 5,23 5 40,56 | 2,796 9,237 9,079 2,880 2,878 | +8,2240 ,8960 ,8766 ,2024 ,1978 | +8,8197 9,4976 9,4868 8,8159 8,8163 | +0,4465 ,9655 ,9580 ,4594 ,4591 | - 7,5365 + 8,8866 + 8,8667 - 7,3592 - 7,3589 |
| enteractor and constitution of the letter | 376 377 378 379 380 | Tauri Orionis Tauri Cel. Scul Columbæ | | | 7 9,19 7 11,49 7 49,26 7 57,46 8 2,83 | 3,497 2,909 3,541 2,122 2,400 | +8,2038 ,1841 ,2024 ,2669 ,2250 | +8,8347 ,8156 ,8396 ,9047 ,8634 | +0,5437 ,4637 ,5491 ,3267 ,3802 | +7,6996 -7,2690 +7,7357 -8,0362 -7,8843 |
| SECTION OF A SECTION OF SECTION SECTION | 381 382 383 384 385 | Aurigæ Orionis | 8 9 9 9 7.8 | 3 4 4 4 4 | 8 35,02 8 59,63 9 37,71 10 48,52 11 15,90 | 3,941 2,905 3,379 3,378 3,122 | +8,2493 ,1694 ,1724 ,1620 ,1469 | +8,8935 ,8165 ,8254 ,8259 ,8145 | ,4631 | +7,9948 -7,2624 +7,5374 +7,5259 +6,7597 |
| month transferrences perfections in the contract of the contra | 386 387 388 389 390 | Aurigæ Orionis | 8.9 8 7.8 8.9 8 | 4 4 4 4 3 | 12 41,26 12 50,07 14 37,91 15 55,77 16 26,63 | 3,772 5,107 3,094 3,145 3,007 | +8,1887 ,3986 ,1161 ,1040 ,0991 | +8,8700 9,0824 8,8155 8,8166 8,8165 | +0,5766 ,7082 ,4905 ,4976 ,4781 | + 7,8645 + 8,3237 + 6,4123 + 6,8728 6,7640 |
| and the Contraction between | 391 392 393 394 395 | Orionis Tauri Leporis | 8.9 7.8 9 7.8 8 | 4 3. 4 4 4 | 16 35,66 16 40,74 18 4,45 18 6,30 18 30,61 | 3,092 3,109 3,442 2,758 2,763 | +8,0967 ,0955 ,0981 ,0929 ,0883 | +8,8162 ,8165 ,8336 ,8284 ,8282 | +0,4902 ,4926 ,5368 ,4406 ,4414 | +6,3528 +6,5886 +7,5357 -7,4536 -7,4421 |
| 9 zankistajne (delekkilikie) merkemeny | 396 397 398 399 400 | Tauri Orionis Tauri Orionis | 8.9 9 9 8 9 | 4 5 4 4 4 | 19 13,44 19 50,96 20 21,96 20 51,14 21 14,54 | 3,555 2,873 3,611 2,871 3,038 | +8,0972 ,0676 ,0911 ,0575 ,0476 | +8,8450 ,8220 ,8515 ,8224 ,8178 | +0,5508 ,4583 ,5576 ,4580 ,4826 | +7,6378 -7,2348 +7,6722 -7,2280 -6,4089 |
| | 401 402 403 404 405 | Orionis Tauri Orionis Camelop. Tauri | 7.8 8.9 8 6.7 7.8 | 3 4 4 3 4 | 21 20,51 22 13,81 22 28,97 23 8,17 24 44,30 | 3,047 3,735 3,142 4,974 3,737 | + 8,0468 ,0857 ,0346 ,2595 ,0557 | +8,8178 8,8676 8,8188 9,0532 8,8684 | +0,4839 ,5723 ,4972 ,6967 ,5725 | -6,2509 +7,7405 +6,7836 +8,1845 +7,7108 |

| No. | No. | Declination Jan. 1, 1836. | Annual Preces- | | Logarit | hms of | | zzi No. | Annua | 1 P. M. |
|---------------------------------|------------------------|---|--|---|---|--|---|---------------------------------|---|---|
| | | , | sion. | a' | Ъ′ | c' | d' | Piazzi | A. R. | Decn. |
| 361 362 363 364 365 | 4. 2 4 4 4 | +10 8 10,37 + 9 26 48,70 -18 3 44,48 + 0 48 9,45 + 1 21 51,71 | +5,927 5,899 5,888 5,721 5,715 | +9,4133 9,4330 9,8506 9,6232 9,6138 | +8,7169 +8,6842 -8,9591 +7,6094 +7,8378 | +0,7728 ,7708 ,7700 ,7574 ,7570 | ,9804 | 265 267 268 277 279 | s. -,022 +,018 +,011 +,021 -,001 | - ,22 - ,12 + ,05 + ,09 - ,20 |
| 366 367 368 369 370 | 4 4 4 4 3 | -20 17 46,51 + 6 11 43,28 - 5 23 26,16 +46 43 41,36 - 4 3 52,09 | 5,653 5,340 5,272 5,200 5,001 | +9,8692 +9,5145 +9,7177 —9,6085 +9,7007 | -8,9902 +8,4589 -8,3923 +9,2766 -8,2479 | +0,7523 ,7275 ,7220 ,7164 ,6991 | —9,9820 ,9840 ,9844 ,9848 ,9860 | 285 299 306 301 2 | +,012 +,034 +,023 +,013 +,007 | — ,04 — ,01 — ,16 + ,17 |
| 371 372 373 374 375 | 4 4 4 4 4 | -11 51 30,74 +78 7 49,21 +77 48 24,75 - 8 15 54,98 - 8 20 46,09 | 4,928 4,866 4,776 4,741 4,690 | +9,7952 -9,9345 -9,9330 +9,7543 +9,7559 | -8,7032 +9,3758 +9,3671 -8,5308 -8,5304 | +0,6927 ,6872 ,6790 ,6759 ,6712 | —9,9865 ,9868 ,9873 ,9875 ,9878 | 311 317 12 15 | +,025 +,019 +,010 +,030 +,012 | - ,01 + ,05 - ,02 + ,03 + ,04 |
| 376 377 378 379 380 | 4 4 4 4 4 | $\begin{array}{c} +18 \ 15 0,00 \\ -6 \ 59 \ 51,23 \\ +19 \ 56 \ 53,04 \\ -36 \ 1 \ 3,76 \\ -27 \ 9 \ 21,86 \end{array}$ | 4,565 4,560 4,503 4,497 4,492 | +9,0294 9,7396 8,8751 9,9657 9,9196 | +8,8533 9,4418 +8,8849 9,1202 9,0097 | +0,6595 ,6589 ,6535 ,6530 ,6524 | —9,9884 ,9885 ,9887 ,9888 ,9888 | 20 24 25 30 29 | +,017 +,002 +,006 +,006 +,007 | + ,10 + ,08 - ,14 - ,04 + ,10 |
| 381 322 383 384 385 | 2 4 5 6 3 | +33 48 14,12 - 7 7 21,38 +13 23 13,12 +13 22 23,49 + 2 20 33,34 | 4,435 4,406 4,350 4,247 4,213 | -9,2601 +9,7419 +9,2923 +9,2923 +9,5955 | +9,0904 -8,4352 +8,7015 +8,6901 +7,9354 | +0,6469 ,6441 ,6384 ,6281 ,6246 | —9,9891 ,9892 ,9895 ,9900 ,9902 | 27 33 38 46 49 | +,002 +,007 -,007 +,008 +,015 | - ,01 - ,08 - ,02 - ,08 - ,07 |
| 386 387 388 389 390 | 3 3 4 4 4 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 4,087 4,065 3,928 3,813 3,773 | 8,9138 9,7708 +9,6180 +9,5740 +9,6794 | +8,9853 +9,2322 +7,5883 +8,0481 -7,9397 | +0,6114 ,6090 ,5941 ,5813 ,5767 | —9,9908 ,9909 ,9915 ,9920 ,9922 | 53 50 67 73 82 | +,015 +,006 +,018 +,007 -,050 | + ,04 + ,06 + ,07 + ,08 |
| 391 392 393 394 395 | 4 4 3 3 | $\begin{array}{c} + 1 & 1 & 50,81 \\ + 1 & 46 & 8,55 \\ + 15 & 53 & 35,53 \\ - 13 & 16 & 48,16 \\ - 13 & 3 & 13,86 \end{array}$ | 3,756 3,744 3,624 3,624 3,590 | +9,6191 9,6053 9,1703 9,8116 9,8096 | +7,5288 +7,7644 +8,6949 -8,6180 -8,6068 | +0,5747 ,5734 ,5592 ,5592 ,5550 | —9,9922 ,9923 ,9928 ,9928 ,9929 | 83 84 89 93 96 | +,013 -,001 +,012 +,009 +,007 | - ,00 - ,03 + ,01 - ,06 + ,28 |
| 396 397 398 399 400 | 4 4 4 3 4 | +20 17 59,52 — 8 28 12,90 +22 24 14,29 — 8 30 57,11 — 1 19 29,84 | 3,526 3,475 3,429 3,394 3,354 | +8,8129 9,7589 8,4150 9,7597 9,6599 | +8,7859 -8,4061 +8,8142 -8,3993 -7,5849 | + 0,5473 ,5409 ,5351 ,5307 ,5256 | —9,9932 ,9934 ,9935 ,9937 ,9938 | 100 104 105 109 110 | +,012 +,006 +,006 +,018 +,020 | - ,17 + ,06 + ,06 + ,09 - ,17 |
| 401 402 403 404 405 | 4 4 4 3 4 | - 0 56 13,40 +26 51 13,49 + 3 13 16,87 +54 18 31,16 +26 51 27,37 | 3,348 3,268 3,251 3,181 3,049 | +9,6532 -8,7634 +9,5775 -9,7551 -8,7781 | -7,4269 +8,8671 +7,9590 +9,1157 +8,8372 | +0,5248 ,5143 ,5120 ,5026 ,4842 | —9,9938 ,9938 ,9942 ,9945 ,9949 | 111 115 121 117 131 | +,010 +,011 +,004 -,035 +,013 | ,07 + ,08 ,05 ,05 ,00 |

| No. | Star's name and | Mag. | | | | Annual Preces- | | Logarit | hms of | |
|---------------------------------|--|---------------------------|-----------------------|---------|--|--|---|---|--|--|
| | | | Obs. | Jan | . 1, 1836. | sion. | а | ь | С | d |
| 406 407 408 409 410 | Camelop. Aurigæ Orionis | 8.9 7 8 8.9 9 | 4 | h. 5 | m. s. 27 32,46 28 2,71 30 13,41 30 20,76 30 31,88 | 4,851 3,922 3,162 | +8,2899 8,1868 8,0083 7,9329 7,9294 | +9,1411 9,0445 8,8957 8,8214 8,8209 | + 0,7409 ,6858 ,5935 ,5000 ,4780 | +8,0915 +7,7420 |
| 411 412 413 414 415 | Orionis Columbæ Orionis | 7 7 7 8 8 | 3 5 2 2 3 | | 30 33,41 30 58,54 31 14,68 32 10,09 32 46,49 | 2,945 2,342 2,335 | ,9248 ,9760 ,9625 | ,8775 ,8786 | +0,4780 ,4691 ,3696 ,3683 ,5459 | $\begin{bmatrix} -6,8890 \\ -7,6576 \end{bmatrix}$ |
| 416 417 418 419 420 | | 9 8.9 9 9 | 4 2 3 4 3 | | 32 50,04 32 56,14 34 38,86 35 38,68 38 7,66 | 2,308 3,519 4,895 | 7,9547 | 8,8826 8,8450 9,0519 | +0,5469 ,3632 ,5464 ,6897 ,5366 | -7,6512 +7,3939 +7,9813 |
| 421 422 423 424 425 | Aurigæ Tauri Orionis | 8 8.9 8 7 9 | 3 3 4 3 4 | | 39 16,29 40 7,99 42 11,0 43 39,6 44 22,7 | $egin{array}{c c} 3,397 \\ 1 & 3,539 \\ 7 & 3,212 \end{array}$ | ,6736 | ,8352 ,8482 ,8253 | +0,5901 ,5311 ,5489 ,5068 ,5311 | 7,1494 7,2576 6,7047 |
| 426 427 428 429 430 | Leporis Orionis Columbæ Aurigæ Orionis | 9 7 8.9 8 7.8 | 2 | | 44 36,7 44 38,8 46 11,5 48 47,4 49 42,8 | $ \begin{array}{c c} 7 & 3,214 \\ 0 & 2,101 \\ 6 & 3,764 \end{array} $ | ,6459 ,6908 ,5545 | ,8255 ,9148 ,8756 | ,3224 | +6,6817 $-7,4593$ $+7,2194$ |
| 431 432 433 434 435 | Orionis | 9 8 8 8.9 | 4 4 4 4 | | 50 11,4 53 23,7 53 42,5 53 42,5 55 45,9 | $\begin{vmatrix} 2 & 3,493 \\ 3,765 \\ 9 & 3,249 \end{vmatrix}$ | ,2908 ,2942 ,2506 | ,8761 ,8277 | | 6,7730 6,9595 6,3776 |
| 436 437 438 439 440 | Orionis Aurigæ Orionis | 8 6.7 7.8 8.9 | 3 4 | | 56 10,8 56 13,5 56 15,8 56 48,4 58 54,1 | $\begin{bmatrix} 3,195 \\ 7 & 4,116 \\ 8 & 3,364 \end{bmatrix}$ | 7,0138 7,1077 6,9415 | 8,8258 8,9279 8,8343 | +0,5723 ,5045 ,6145 ,5269 ,8224 | 5,9901 6,8980 6,2768 |
| 441 442 443 444 445 | Leporis Camelop. Columbæ | 7 8 8 8 | 4 4 4 3 | 6 | 59 3,1 0 1 32,3 1 38,7 2 44,7 | $ \begin{array}{c c} & 2,499 \\ & 5,314 \\ & 2,061 \end{array} $ | -5,8010 7,0261 6,8167 | 8,8601 9,1152 8,9216 | ,3978 ,7254 ,3141 | + 6,3446 + 5,3944 - 6,9603 + 6,5964 - 6,9721 |
| 446 447 448 449 450 | Lyncis Orionis | 9 8 8 7 8 | 3 3 | | 4 7,8 4 26,0 5 16,2 7 46,6 | 3,663 9 5,345 8 3,453 | 7,1464 7,4410 7,2240 | 8,8631 9,1198 8,8411 | +0,5638 ,5638 ,7279 ,5382 ,4660 | -6,7557 -7,3768 -6,6665 |

| | | | 1 | | 11 | - | *************************************** | | | · | |
|--|---------------------------------|-----------------------|--|---|--|---|---|---|---------------------------------|--|---|
| | No. | No. Obs. | Declination Jan. 1, 1836. | Annual Preces- sion. | | Logarit | hms of | | zzi No. | Annua | 1 P. M. |
| | | _ | | Sion. | a' | b' | c' | d' | Piazzi | A. R. | Decn. |
| | 406 407 408 409 410 | 4 4 3 4 2 | +61 30 20,19 +53 24 14,80 +32 47 54,55 + 4 2 17,88 - 2 42 0,19 | +2,795 2,755 2,576 2,570 2,553 | -9,8215 -9,7292 -9,2355 +9,5599 +9,6803 | +9,0884 +9,0428 +8,8307 +7,9569 -7,7754 | ,4109 | —9,9957 ,9959 ,9964 ,9964 | 143 146 168 170 173 | s. ,023 +,011 +,016 +,017 +,005 | +0,11 -,51 -,08 -,08 +,04 |
| And Commencer (and commencer of the Anderson Commencer of the Anderson States | 411 412 413 414 415 | 4 2 4 4 3 | - 2 41 40,42 - 5 17 40,06 -28 43 35,82 -28 56 7,35 +18 36 2,04 | 2,553 2,518 2,495 2,414 2,356 | +9,6803 9,7185 9,9335 9,9345 8,9731 | 7,7754 8,0632 8,7767 8,7654 +8,5743 | +0,4070 ,4010 ,3970 ,3827 ,3721 | —9,9964 ,9965 ,9966 ,9968 ,9970 | 174 175 181 190 187 | -,001 +,010 +,008 -,007 -,003 | + ,07 - ,05 + ,08 + ,07 + ,08 |
| Straft Contractors separate Contractors | 416 417 418 419 420 | 2 4 4 2 4 | +18 53 59,16 -29 48 38,62 +18 45 11,58 +53 57 43,76 +15 39 11,26 | 2,350 2,350 2,194 2,094 1,886 | +8,9494 $+9,9400$ $+8,9638$ $-9,7396$ $+9,1732$ | +8,5799 -8,7657 +8,5463 +8,9270 +8,4046 | ,3412 | —9,9970 ,9970 ,9974 ,9976 ,9981 | 189 193 198 199 218 | +,013 +,026 +,013 +,012 +,010 | - ,15 - ,28 + ,03 + ,04 - ,07 |
| S description of the state of t | 421 422 423 424 425 | 4 4 4 4 | +31 43 33,14 +13 51 43,21 +19 28 11,32 + 6 9 49,69 +13 50 52,22 | 1,788 1,717 1,538 1,410 1,346 | -9,1903 +9,2601 +8,8808 +9,5105 +9,2601 | +8,6712 8,3126 8,4080 7,8783 8,2066 | +0,2523 ,2350 ,1869 ,1491 ,1290 | —9,9983 ,9984 ,9987 ,9989 ,9990 | 225 232 245 255 258 | +,003 +,019 +,009 +,025 +,011 | + ,05 - ,03 - ,01 + ,06 ,00 |
| Performed Marie Street, attention, or when | 426 427 428 429 430 | 2 4 3 4 4 | $ \begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$ | 1,328 1,323 1,195 0,955 0,880 | +9,8808 +9,5092 +9,9717 -8,8865 +9,6042 | -8,3730 +7,8552 -8,5437 +8,3433 +7,1476 | +0,1233 ,1214 ,0772 9,9804 ,9445 | —9,9990 ,9990 ,9992 ,9995 ,9996 | 263 260 270 279 282 | +,019 +,010 +,010 +,004 +,024 | - ,27 - ,04 - ,11 + ,04 + ,01 |
| AND STREET, THE PROPERTY OF TH | 431 432 433 434 435 | 4 4 2 4 4 | +11 44 33,16 +17 39 32,32 +27 34 6,12 + 7 41 29,39 +15 27 3,97 | 0,838 0,659 0,530 0,530 0,350 | +9,3463 +9,0414 -8,8921 +9,4713 +9,1818 | +7,9302 7,9281 8,0833 7,5498 7,6674 | +9,9239 ,7479 ,7247 ,7247 ,5438 | —9,9996 ,9998 ,9998 ,9998 | 284 300 303 305 317 | +,009 +,015 +,012 +,015 +,001 | + ,07 + ,07 + ,09 - ,11 - ,04 |
| annentratura descriptions describerates describerates annentratura | 436 437 438 439 440 | 4 4 4 4 4 | +26 31 55,48 + 5 25 18,79 +38 5 24,38 +12 29 9,58 +69 30 32,98 | 0,315 0,305 0,303 0,257 0,058 | 8,7708 +9,5276 9,4409 +9,3181 9,8949 | +7,8461 ,1643 ,9700 ,4425 ,4354 | +9,4981 9,4899 9,4817 9,4091 8,7657 | -9,9999 9,9999 9,9999 0,0000 0,0000 | 319 321 318 324 326 | +,013 -,003 +,006 +,013 ,000 | + ,08 - ,06 - ,04 + ,02 - ,06 |
| STREET, STREET | 441 442 443 444 445 | 2 4 4 4 4 | +48 44 14,55 -23 4 +59 15 2,26 -37 1 4,47 +46 25 55,93 | +0,058 -0,017 0,163 0,158 0,268 | -9,6684 +9,8982 -9,8041 +9,9768 -9,6284 | +6,5342 -7,8451 +7,6747 | $ \begin{array}{r} +8,7657 \\ -8,2428 \\ -9,2128 \\ -9,1970 \\ -9,4284 \end{array} $ | -0,0000 0,0000 0,0000 0,0000 0,0000 | 333 345 343 4 | +,026 +,012 +,006 -,001 | ,00 ,06 +- ,09 +- ,19 |
| | 446 447 448 449 450 | 5 4 4 4 2 | +24 1 26,03 +23 59 28,10 +59 36 26,39 +16 4 33,38 -6 9 40,27 | 0,379 0,383 0,420 0,483 0,699 | -8,0414 -8,0414 -9,80 <2 +9,1461 +9,7308 | —7,8865 —7,8925 —8,2569 —7,8253 + ,5739 | -9,5786 - ,5852 ,6230 ,6847 ,8448 | -9,9999 ,9999 ,9999 ,9999 ,9997 | 13 14 10 24 44 | +,022 ,0 +,008 ,000 +,013 | - ,06 - ,09 - ,12 + ,14 - ,01 |

| No. | Star's name and Mag. | No. Obs. | Righ Ascens | | Annual Preces- | | Logarit | hms of | 1 |
|---------------------------------|--|--------------------------|---|---|--|---|----------------------------|---|---|
| | | Obs. | Jan. 1, | 1836. | sion. | a | b | с | d |
| 451 452 453 454 455 | Monocer. 9 | | 8 | s. 11,85 23,67 24,31 9,61 | s. +2,768 2,767 2,925 4,813 2,511 | +7,3986 ,4055 ,4006 ,62 12 ,5127 | 8,8344 8,8261 | ,4420 ,4661 | +6,7402 $+6,7476$ $+6,4294$ $-7,5211$ $+7,0982$ |
| 456 457 458 459 460 | Lyncis 8.9 Monocer. 7.8 Canis. Maj. 8.9 Lyncis 8 Monocer. 9 | 3 4 4 3 4 | $egin{array}{c} 10 \ 12 \ 12 \end{array}$ | 10,12 29,70 7,21 17,35 45,41 | 2,748 | -7,8399 ,5018 ,5644 ,8504 ,6078 | 8,8355 | ,5263 ,4390 | -6,8319 +6,9326 -7,7811 |
| 461 462 463 464 465 | Monocer, 7.8 ——————————————————————————————————— | 3 4 | 15 16 16 | 17,45 5,14 23,59 33,44 59,24 | 3,158 3,176 3,404 2,177 3,576 | 7,6248 ,6505 ,6969 ,7672 ,7528 | ,9031 | ,5019 ,532 0 ,3379 | 6,4499 6,5624 7,0861 +7,5124 7,3049 |
| 466 467 468 469 470 | Monocer. 9 Canis. Maj. 8 Lyncis 9.10 Geminor. 9 | 4 2 2 4 4 | 18 18 19 | 14,39 20,33 25,15 56,48 55,85 | 5,311 | -7,7369 7,7312 7,8267 8,0635 7,8179 | 8,9180 | | -5,7001 + 7,6023 |
| 471 472 473 474 475 | Canis. Maj. 8 Geminor. 8 Monocer. 9 20 Geminor. 8 Monocer. 7.8 | 3 2 4 2 4 | 22 22 22 | 59,17 5,45 7,47 43,45 54,98 | 3,448 3,303 3,497 | -7,8600 ,8290 ,8187 ,8462 ,8667 | ,8286 ,8432 | ,5189 ,5437 | -7,2680 -7,0605 |
| 476 477 478 479 480 | Aurigæ 7.8 Geminor. 8 | 3 4 | 25 26 28 | 22,38 27,21 23,71 16,22 11,15 | 3,471 3,462 3,674 | -7,9408 ,8913 ,9060 ,9582 ,9530 | ,8394 | ,5404 | |
| 481 482 483 484 485 | Canis. Maj. 7.8 12 Lyncis pr. 8 Canis. Maj. 8 Monocer. 8.9 | 3 3 | 30 31 31 | 19,49 52,13 42,76 50,84 35,02 | 2,238 5,323 2,637 | -8,0167 8,0257 8,2642 7,9903 7,9793 | 9,1155 8,8416 | +0,3518 ,3499 ,7262 ,4211 ,5006 | + 7,7509 8,1999 +7,4814 |
| 486 487 488 489 490 | Lyncis 9 Monocer. 8 Canis. Maj. 8.9 Aurigæ 8 Canis. Maj. 7.9 | 4 | 37 37 37 | | 3,129 2,676 4,450 | ,0546 ,2042 | 8,8185 8,8365 8,9790 | ,4275 ,6484 | 6,7035 |
| 491 492 493 494 495 | 8. | 9 4 9 2 9 1 | 39 39 40 41 41 | 5,03 5,09 22,90 | 2,574 2,565 2,735 | ,0843 ,0954 ,0932 | ,8461 ,8468 ,8302 | ,4091 ,4370 | +7,6303 +7,6484 +7,4835 |

| No. | No. | Declination Jan. 1, 1836. | Annual Preces- | | Logarith | ims of | | zzi No. | Annua | I P. M. |
|---------------------------------|--|---|---|---|---|---|---|---------------------------------|---|---|
| | | | sion. | a' | Ъ′ | c' | d' | Piazzi | A. R. | Decn. |
| 451 452 453 454 455 | 8 1 4 4 | -12 40 -12 41 22,93 - 6 8 11,50 +52 34 51,48 -22 38 55,92 | 0,734 0,746 0,752 0,764 0,903 | +9,8082 +9,8082 +9,7308 -9,7243 +9,8949 | +7,9056 +7,9130 +7,6029 -8,4808 +8,2395 | 9,8660 ,8728 ,8762 ,8829 ,9559 | —9,9997 ,9997 ,9997 ,9997 ,9996 | 46 48 47 39 59 | s. +,016 +,010 +,014 +,027 | + ,02 + ,05 - ,07 - ,19 |
| 456 457 458 459 460 | 3 4 4 2 4 | +63 42 44,18 +12 21 13,74 -13 29 27,96 +58 29 47,27 -1 57 27,66 | 0,921 0,923 1,072 1,113 1,218 | -9,8414 $+9,3222$ $+9,8162$ $-9,7952$ $+9,6702$ | -8,6148 -7,9979 +8,0965 -8,6753 +7,3154 | —9,9642 9,9697 0,0303 ,0465 ,0856 | —9,9995 ,9995 ,9994 ,9993 ,9992 | 50 58 72 61 76 | +,027 +,016 +,005 +,013 +,026 | - ,05 + ,03 + ,03 - ,02 - ,08 |
| 461 462 463 464 465 | $egin{array}{c} 2 \ 3 \ 1 \ 3 \end{array}$ | $ \begin{array}{r} + 350 & 5,75 \\ + 442 & 8,60 \\ + 1410 & 35,19 \\ -3347 & 28,72 \\ +2052 \end{array} $ | 1,264 1,340 1,450 1,462 1,590 | +9,5635 9,5453 9,2480 9,9614 8,6990 | 7,6250 7,7371 -8,2488 +8,6081 8,4514 | 0,1019 ,1271 ,1615 ,1650 ,2014 | —9,9991 ,9990 ,9989 ,9988 ,9986 | 77 85 94 97 99 | +,010 -,004 +,012 +,014 +,013 | - ,07 - ,30 - ,07 + ,07 |
| 466 467 468 469 470 | 3 4 2 4 4 | +10 24 44,93 + 0 31 39,12 -36 37 5,38 +59 18 25,64 +20 31 26,62 | 1,613 1,619 1,619 1,776 1,851 | +9,3927 +9,6284 +9,9745 -9,8028 +8,7559 | -8,1629 $-6,8762$ $+8,6829$ $-8,8819$ $-8,5102$ | 0,2077 ,2093 ,2093 ,2494 ,2675 | —9,9986 ,9986 ,9986 ,9983 ,9981 | 102 105 112 106 120 | +,019 +,026 ,001 +,001 +,023 | - ,18 - ,12 - ,06 - ,18 + ,15 |
| 471 472 473 474 475 | 4 2 4 3 3 | $\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$ | 1,845 1,950 1,950 2,008 2,194 | +9,9528 ,1584 ,4031 ,0294 ,4814 | +8,6892 - ,4271 - ,2299 - ,4881 - ,1462 | -0,2661 ,2900 ,2900 ,3028 ,3412 | —9,9981 ,9979 ,9979 ,9978 ,9974 | 127 129 131 134 149 | +,015 +,005 +,014 ,000 +,016 | - ,08 - ,06 - ,12 + ,04 + ,06 |
| 476 477 478 479 480 | 4 4 4 4 2 | +31 36 10,58 +16 53 6,42 +16 34 17,01 +24 35 3,10 -18 31 49,89 | 2,234 2,240 2,321 2,483 2,558 | -9,1818 +9,1004 +9,1238 -8,2553 +9,8609 | -8,7665 -,5113 -,5188 -,7121 +,6082 | 0,3491 ,3502 ,3657 ,3950 ,4080 | —9,9973 ,9973 ,9971 ,9966 ,9964 | 150 153 157 168 178 | +,013 +,005 +,017 +,009 +,009 | + ,02 + ,07 + ,03 - ,06 + ,09 |
| 481 482 483 484 485 | 3 4 3 4 3 | -31 45 16,99 -32 5 16,63 +59 35 51,24 -18 2 38,86 + 4 17 35,13 | | +9,9499 + ,9557 — ,8021 + ,8573 + ,5551 | +8,8437 +8,8551 -9,0802 +8,6356 -8,0275 | 0,4243 ,4318 ,4464 ,4464 ,4562 | —9,9961 ,9960 ,9957 ,9957 ,9955 | 187 191 184 196 200 | +,019 +,035 -,005 +,014 +,016 | - ,13 - ,03 - ,10 + ,14 - ,13 |
| 486 487 488 489 490 | 4 4 4 3 3 | $ \begin{vmatrix} +53 & 12 & 16,50 \\ + & 2 & 39 & 49,87 \\ -16 & 34 & 1,68 \\ +46 & 21 & 37,52 \\ -20 & 36 & 25,96 \end{vmatrix} $ | 3,268 3,320 | -9,7243 + ,5877 + ,8432 - ,6180 + ,8768 | +8,6673 -9,0787 | ,5135 ,5143 ,5211 | —9,9944 ,9942 ,9941 ,9940 ,9937 | 215 221 225 220 233 | +,018 +,015 +,011 +,017 +,023 | - ,03 - ,17 - ,05 - ,03 + ,01 |
| 491 492 493 494 495 | 4 2 5 3 3 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 3,417 3,498 3,612 | +9,8756 + ,8762 + ,8791 + ,8215 - ,4518 | +8,7777 $+8,7948$ $+8,6460$ | ,5337 ,5438 ,5578 | —9,9936 ,9936 ,9933 ,9928 ,9927 | 235 236 242 249 244 | +,014 +,029 +,027 +,016 +,013 | ,10 ,02 ,04 ,00 ,13 |

| No. | Star's name and Mag. | No. Obs. | | Annual Preces- | | Logarit | hms of | a a |
|-------------------------------------|---|-----------------------|--|--|---|--|---|---|
| | | UDS. | Jan. 1, 1836. | sion. | a | b | c | d |
| 496 497 498 499 500 | Canis. Maj. 8 7.8 42 8.9 Lyncis 8.9 | 4 | h. m. s. 6 43 24,66 43 58,25 44 14,69 44 36,04 44 | s. +2,237 2,621 2,264 5,150 5,142 | 8,1733 ,1297 ,1777 ,3869 ,3892 | +8,8894 8,8397 8,8850 9,0889 9,0892 | ,4185 ,3549 ,7118 | +7,9019 +7,6387 +7,8960 -8,3143 -8,3168 |
| 501 502 503 504 505 | Geminor. 8 Canis. Maj. 8.9 Lyncis 8.9 Canis. Maj. 8 | 3 | 45 45 8,00 46 17,13 51 31,83 52 38,56 | 3,490 2,181 2,637 4,488 2,355 | —8,1388 ,1986 ,1503 ,3451 ,2396 | ,9829 | ,3387 ,4211 ,6520 | +7,9473 +7,6461 |
| 506- 507- 508- 509- 510 | Lyncis 8.9 | 3 4 4 | 54 22,17 54 28,48 58 4,90 58 28,38 58 37,87 | 3,562 4,600 2,731 4,618 3,436 | -8,2261 ,3877 ,2388 ,4211 ,2443 | +8,8408 9,0008 8,8240 9,0028 8,8264 | | -8,2702 |
| 511 512 513 514 514 | | 4 3 | 58 57,33 7 0 48,17 1 43,03 1 48,97 2 1,78 | 1,846 3,229 3,211 3,205 3,203 | -8,3690 ,2473 ,2530 ,2533 ,2530 | | ,5091 ,5066 | -7,339 3 -7,2956 -7,2785 |
| 516 517 518 519 520 | Can. Maj. 8 Geminor. 8 Can. Min. 9 ———————————————————————————————————— | 3 3 4 4 4 | 2 59,47 3 16,97 3 27,95 4 46,03 5 34,06 | 2,470 3,445 3,305 3,316 5,288 | ,2788 | +8,8498 8,8249 8,8142 8,8142 9,1065 | +0,3927 ,5372 ,5192 ,5207 ,7233 | +7,9262 -7,7286 -7,5286 -7,5581 -8,5152 |
| 521 522 523 524 525 | Can. Min. 9 Lyncis. 8 Can. Min. 8 Camelop. 8.3 | | 5 40,14 6 15,04 6 31,43 7 8,26 7 25,34 | | -8,2810 ,4043 ,2882 ,6039 ,5974 | +8,8103 8,9290 8,8116 9,1222 9,1139 | +0,5126 ,6222 ,5169 ,7321 ,7274 | -8,5467 |
| 526 527 528 529 530 | Can. Min. 9 8 19 Lyncis 8 Can. Maj. 8 | | 7 36,20 8 1,21 9 26,50 9 28,91 12 24,44 | 3,284 3,287 4,927 4,932 2,485 | 8,2947 ,2974 ,5485 ,5492 ,3585 | +8,8108 8,8107 -9,0511 9,0518 8,8433 | | |
| 531 532 533 534 535 | M. Navis 7 Geminor. 8.9 7.8 Navis 8 Lyncis 8 | | 12 59,96 14 33,61 15 33,86 15 55,80 20 40,82 | 1,855 3,611 3,864 2,288 4,406 | -8,4613 ,3666 ,4081 ,4072 ,5279 | +8,9423 ,8371 ,8723 ,8698 ,9614 | +0,2683 ,5576 ,5870 ,3595 ,6440 | +8,3007 -7,9626 -8,1349 |
| 536 537 538 539 540 | Geminor. 8.3 Monocer. 6.3 1.a Geminor. 4.3 Can. Min. 8 | 4 3 2 | 21 14,43 21 27,67 24 7,38 25 8,98 26 20,17 | 3,733 2,909 3,854 3,756 -3,190 | 8,4194 ,3700 ,4529 ,4431 ,3926 | +8,8497 ,7992 ,8665 ,8511 ,7943 | +0,5721 ,4637 ,5859 ,5747 ,5038 | -8,0903 +7,4701 -8,1799 8,1282 7,3846 |

| No. | No. | Declination Jan. 1, 1836. | Annual Preces- | | Logarith | ms of | | zi No. | Annua | 1 P. M. |
|---------------------------------|-----------------------|--|---|---|---|---|---|---------------------------------|---|---|
| | J DS. | · | sion. | a' | <i>b'</i> | c' | ď | Piazzi | A. R. | Decn. |
| 496 497 498 499 500 | 4 4 2 3 2 | -32 21 26,53 -18 49 28,07 -31 30 50,91 +57 47 19,94 +57 49 52,96 | " -3,784 3,836 3,859 3,905 3,922 | +9,9508 +9,8621 +9,9460 -9,7774 -9,7774 | +9,0046 +8,7909 +9,0028 9,2171 9,2191 | -0,5780 ,5839 ,5864 ,5916 ,5935 | —9,9921 ,9919 ,9918 ,9916 ,9915 | 258 260 262 255 256 | *. +,010 -,054 +,007 +,008 | + ,07 |
| 501 502 503 504 505 | 4 4 3 4 4 | +17 52 55,90 -34 5 10,58 -18 14 48,57 +47 29 8,31 -28 44 25,47 | 3,939 3,933 4,036 4,498 4,577 | +9,0492 +9,9586 +9,8567 —9,6284 +9,9269 | -8,7806 +9,0414 +8,7997 -9,2185 + ,0407 | -0,5954 ,5947 ,6059 ,6530 ,6606 | —9,9914 ,9915 ,9910 ,9888 ,9884 | 265 268 272 298 307 | +,017 +,020 +,012 +,016 | - ,04 + ,09 + ,18 + ,02 + ,19 |
| 506 507 508 509 510 | 4 4 4 1 | +20 49 48,34 +49 42 33,91 -14 37 43,77 +50 9 18,63 +15 47 29,85 | 4,730 4,747 5,041 5,081 5,075 | +8,7853 -9,6628 +9,8228 -9,6674 +9,1818 | -8,9236 -9,2569 +8,8030 -9,2891 -8,8407 | -0,6749 ,6764 ,7025 ,7059 ,7054 | —9,9876 ,9875 ,9858 ,9856 ,9856 | 311 309 328 326 329 | +,005 -,009 +,010 -,063 +,009 | - ,11 - ,08 |
| 511 512 513 514 515 | 1 4 4 2 3 | $ \begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$ | 5,109 5,272 5,351 5,365 5,379 | +9,9908 9,4941 9,5119 9,5185 9,5198 | +9,2433 -8,5120 -8,4691 -8,4521 -8,4497 | -0,7083 ,7220 ,7284 ,7289 ,7307 | —9,9854 ,9844 ,9839 ,9839 ,9838 | 337 342 345 347 1 | -,007 +,015 +,017 +,060 +,012 | + ,09 + ,11 - ,22 ,00 - ,09 |
| 516 517 518 519 520 | 3 4 3 4 | -24 56 55,88 +16 21 11,90 +10 27 51,64 +10 57 49,14 +59 58 51,70 | 5,452 5,485 5,497 5,609 5,687 | +9,9025 +9,1614 +9,4014 +9,3838 9,7875 | +9,0597 —8,8867 —8,6974 —8,7262 —9,3904 | 0,7365 ,7392 ,7401 ,7489 ,7549 | —9,9833 ,9831 ,9830 ,9823 ,9818 | 14 9 12 23 20 | -,003 +,013 +,014 +,015 +,021 | + ,03 |
| 521 522 523 524 525 | 3 4 4 3 4 | + 8 18 32,03 +41 13 44,67 + 9 46 34,39 +61 13 24,36 +60 37 14,61 | 5,681 5,737 5,754 5,816 5,838 | +9,4639 9,4843 +9,4249 9,7993 9,7931 | | 0,7545 ,7587 ,7600 ,7646 ,7662 | —9,9818 ,9814 ,9813 ,9809 ,9807 | 26 28 34 30 33 | +,015 +,008 +,019 +,004 +,012 | - ,01 + ,09 - ,05 + ,21 - ,13 |
| 526 527 528 529 530 | 5 4 1 4 3 | + 9 37 6,21 + 9 44 50,07 +55 34 58,80 +55 38 23,08 -24 39 36,82 | 5,843 5,877 6,010 6,010 6,238 | +9,4281 +9,4249 -9,7340 -9,7340 +9,8982 | 8,6875 8,6952 9,3933 9,3936 +9,1136 | 0,7667 ,7691 ,7789 ,7789 ,7950 | —9,9807 ,9805 ,9795 ,9795 ,9779 | 40 43 47 49 73 | +,012 -,013 +,034 +,024 -,004 | |
| 531 532 533 534 535 | 4 3 4 | -43 41 23,49 +23 14 26,54 +32 12 45,62 -31 44 +46 52 26,43 | 6,288 6,426 6,509 6,531 6,932 | +9,9868 +8,3979 -9,1367 +9,9375 -9,5888 | +9,3359 -9,1020 -9,2384 +9,2338 -9,4021 | 0,7985 ,8079 ,8135 ,8150 ,8408 | —9,9775 ,9764 ,9758 ,9756 ,9723 | 82 84 89 93 112 | +,005 | ,00 ,01 |
| 536 537 538 539 540 | 5 4 4 3 | +27 57 31,16 - 7 13 28,04 +32 14 26,26 +28 58 + 5 38 56,01 | 6,976 6,992 7,215 7,297 7,390 | -8,7482 +9,7396 -9,1173 -8,8513 +9,5327 | —9,2125 +8,6427 —9,2833 —9,2463 —8,5586 | 0,8436 ,8446 ,8583 ,8631 ,8686 | | 118 120 127 136 142 | +,008 +,012 ,000 +,018 +,011 | - ,04 + ,19 - ,08 - ,08 |

| No. | Star's name and Ma | g. No | . 4 | Right Ascension | Annual Preces- | | Logarit | hms of | |
|---------------------------------|---|---|-------|---|-------------------------|--|---|---|---|
| | | J (10) | Ja | n. 1, 1836. | sion. | ß | b | c | d |
| 541 542 543 544 545 | Navis Canis Min. | 7.8 4 7 3 7 5 7.8 4 3.9 3 | | m. s. 26 22,02 27 18,52 27 50,87 28 37,53 28 57,59 | 3,203 3,193 | -8,3914 ,4502 ,4004 ,4037 ,4394 | +8,7931 ,8464 ,7936 ,7926 ,8268 | ,3807 ,5056 | -7,1933 +8,1249 -7,4349 -7,4058 +8,0348 |
| 546 547 548 549 550 | K ² Navis Canis Min. | 3.9 4 9 4 7.8 8 5 9 3 | | 30 14,04 30 14,44 32 32 10,68 34 4,05 | 5,778 2,457 3,163 | 8,7926 ,7926 ,4649 ,4189 ,4677 | +9,1718 9,1718 8,8357 8,7889 8,8274 | +0,7618 ,7618 ,3904 ,5001 ,5598 | 8,7518 8,7518 +8,1134 7,3070 8,0874 |
| 551 552 553 554 555 | Navis | 8 4 8.9 4 7.8 3 8.9 4 7.8 4 | | 34 40,38 37 38,24 37 49,16 37 56,30 37 56,57 | 2,955 2,190 2,758 | —8,4284 ,4427 ,5325 ,4556 ,4559 | | +0,4885 ,4706 ,3404 ,4406 ,4406 | 6,4236 +7,4082 +8,3000 +7,8483 +7,8485 |
| 556 557 558 559 560 | Navis | 5.6 4 8.9 5 8 3 7.8 4 | | 38 38,74 38 38,78 40 20,04 40 29,26 42 17,94 | 2,142 2,139 3,872 | —9,2032 8,5445 ,5525 ,5324 ,4649 | +9,5378 8,8818 8,8815 8,8601 8,7841 | +0,9946 ,3308 ,3302 ,5879 ,4595 | -9,1964 +8,3273 +8,3372 -8,2758 +7,6487 |
| 561 562 563 564 565 | Navis Geminor. Monocer. | 7.8 2 8 2 8.9 4 7.8 3 8.9 4 | | 42 18,81 44 26,01 44 27,24 44 42,01 45 7,66 | 2,680 3,838 2,963 | | +8,7796 8,7986 8,8518 8,7784 9,1530 | +0,4773 ,4281 ,5841 ,4717 ,7524 | +7,2075 +7,9781 -8,2761 +7,4125 -8,8060 |
| 566 567 568 569 570 | Canis Min. Navis | 8.9 7.8 9 8 8.9 | | 46 18,45 48 21,88 49 28,20 49 55,91 50 18,40 | 3,257 2,575 4,733 | ,4886 ,5217 | +8,7756 8,7787 8,8068 9,0083 8,7721 | +0,4799 ,5128 ,4108 ,6751 ,4774 | +7,0945 -7,6861 +8,1061 -8,6371 +7,2375 |
| 571 572 573 574 575 | Navis | 7.8 8 8 7.8 8 | | 51 14,26 52 31,81 53 1,53 53 27,10 56 45,97 | 3,500 2,571 3,391 | —8,5213 ,5259 ,5355 ,5173 ,5133 | +8,7981 ,7965 ,8043 ,7840 ,7653 | +0,5446 ,5441 ,4101 ,5303 ,4780 | |
| 576 577 578 579 580 | Lyncis Cancri Monocer. Cancri Monocer. | 8 4 9 4 8.9 4 8 4 | . 8 | 59 30,11 0 5,72 0 22,77 1 22,93 2 4,38 | 3,292 3,086 3,263 | ,5249 ,5343 | +8,8534 ,7691 ,7608 ,7658 ,7615 | +0,5918 ,5175 ,4894 ,5136 ,4686 | -6,7368 -7,7579 |
| 581 582 583 584 585 | Cancri Navis Cancri Lyncis Cancri | 8 9 8 8 7 8 8 8 | | 2 48,25 3 43,07 4 34,20 5 35,96 6 16,56 | 2,685 3,297 4,674 | | +8,7802 ,7803 ,7646 ,9923 ,7760 | +0,5371 ,4289 ,5181 ,6697 ,5364 | +8,0598 -7,8402 8,6904 |

| No. | No. | Declination | Annual Preces- | | Logarith | ms of | | zi No. | Annual | P. M. |
|---------------------------------|-----------------------|--|---|---|---|--|---|---------------------------------|---|---|
| | Obs. | Jan. 1, 1836. | sion. | a' | b' | c' | d' | Piazzi | A. R. | Decn. |
| 541 542 543 544 545 | 4 4 4 4 2 | + 3 37 38,16 -28 12 57,90 + 6 13 11,63 + 5 45 55,05 -23 11 22,97 | 7,390 7,470 7,514 7,579 7,660 | +9,5729 +9,9143 +9,5198 +9,5302 +9,8831 | -8,3685 +9,2461 -8,6085 -8,5797 +9,1743 | —0,8686 ,8733 ,8759 ,8796 ,8808 | 9,9683 ,9675 ,9671 ,9665 ,9663 | 143 148 150 158 165 | +,018 +,013 +,001 +,013 +,003 | +0,02 +,05 +,14 +,02 +,05 |
| 546 547 548 549 550 | 1 7 3 2 4 | $\begin{array}{c} +65 & 32 & 13,62 \\ +65 & 32 & 21,66 \\ -26 & 26 & 4,51 \\ +4 & 27 & 4,75 \\ +24 & 37 & 35,06 \end{array}$ | 7,724 7,724 7,853 7,863 8,024 | -9,8195 -9,8195 +9,9025 +9,5575 +8,1139 | | 0,8878 ,8878 ,8950 ,8956 ,9044 | -9,9651 ,9651 ,9638 ,9637 ,9621 | 159 160 177 174 182 | -,018 -,013 +,007 +,001 | + ,15 + ,08 + ,12 + ,10 - ,07 |
| 551 552 553 554 555 | 4 4 3 4 4 | + 0 34 16,72 - 5 17 14,34 -35 49 47,52 -14 17 33,84 -14 17 50,11 | | +9,6284 ,7126 ,9469 ,8102 ,8102 | 7,6000 +8,5824 +9,3849 +9,0107 +9,0110 | 0,9064 ,9188 ,9194 ,9200 ,9202 | —9,9617 ,9592 ,9591 ,9590 ,9589 | 189 202 206 204 205 | +,010 +,011 +,017 +,019 +,007 | - ,03 - ,11 - ,04 - ,12 - ,15 |
| 556 557 558 559 560 | 2 4 | +79 54 33,10 -37 19 52,61 -37 32 +33 38 24,41 - 8 46 28,91 | 8,418 8,375 8,508 8,529 8,665 | -9,9124 + ,9523 + ,9523 - ,1492 + ,7536 | -9,6164 +9,4038 +9,4126 -9,3723 +8,8197 | 0,9252 ,9230 ,9298 ,9309 ,9378 | —9,9579 ,9583 ,9569 ,9566 ,9551 | 187 209 218 215 228 | -,017 +,046 +,013 +,008 +,018 | -,16 +,01 +,01 ,00 |
| 561 562 563 564 565 | 4 4 4 | - 3 11 15,83 -17 56 30,56 +32 42 25,37 - 5 0 38,77 +65 10 40,78 | 8,833 8,844 8,854 | +9,6839 + ,8395 - ,0792 + ,7076 - ,8000 | +8,3829 +9,1330 -9,3773 +8,5869 -9,6053 | 0,9381 ,9461 ,9466 ,9472 ,9495 | 9,9550 ,9531 ,9530 ,9528 ,9523 | 227 241 238 242 236 | +,009 +,017 -,013 +,005 +,022 | + ,03 + ,15 - ,10 - ,17 - ,19 |
| 566 567 568 569 570 | 4 3 4 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 9,146 9,229 9,276 | +9,6730 +,4609 +,8704 -,6730 +,6830 | -8,8568 + 9,2475 | — 0 ,9533 ,9612 ,9652 ,9673 ,9681 | —9,9513 ,9493 ,9483 ,9477 ,9475 | 247 258 264 260 268 | +,005 +,006 +,029 +,007 +,014 | ,00 -,05 +,05 -,11 +,08 |
| 571 572 573 574 575 | 4 4 | $ \begin{vmatrix} +20 & 15 & 32,10 \\ +20 & 11 & 4,42 \\ -22 & 54 & 22,60 \\ +15 & 23 & 55,59 \\ -3 & 2 & 7,98 \end{vmatrix} $ | 9,471 9,502 9,538 | +9,0043 ,0128 ,8710 ,2648 ,6803 | $\begin{array}{c c} -9,2123 \\ +9,2662 \\ -9,1016 \end{array}$ | 0,9717 ,9764 ,9778 ,9795 ,9907 | 9,9465 ,9451 ,9447 ,9442 ,9408 | 272 280 287 286 300 | +,003 +,013 +,025 +,009 +,014 | - ,08 - ,15 + ,04 - ,05 + ,18 |
| 576 577 578 579 580 | 4 1 4 | +35 56 21,18 +10 58 58,13 + 0 55 57,61 + 9 38 39,76 - 6 15 57,88 | 10,042 10,067 10,142 | -9,1987 + ,4166 + ,6232 + ,4533 + ,7202 | —8,9791 —7,9128 —8,9278 | -1,0001 ,0018 ,0029 ,0061 ,0083 | —9,9378 ,9372 ,9369 ,9358 ,9350 | 308 313 315 322 2 | +,004 | ,06 |
| 581 582 583 584 585 | 4 4 4 4 | +18 7 56,40 -18 29 29,00 +11 20 19,60 +54 38 26,90 +18 4 3,60 | 7 10,313 2 10,382 7 10,462 | $\begin{vmatrix} + & ,8351 \\ + & ,4099 \\ - & ,6484 \end{vmatrix}$ | $\begin{vmatrix} + & ,2129 \\ - & ,0077 \\ - & ,6291 \end{vmatrix}$ | ,0134 ,0163 ,0196 | ,9321 ,9309 | 6 12 13 15 20 | +,019 +,010 +,014 | + ,03 - ,01 - ,15 |

| No. | Star's name and | Mag. | No. | Right Ascension | Annual Preces- | | Logar | ithms of | |
|---------------------------------|--|---------------------------|-----------------------|---|--|---|---|---|---|
| | | | | Jan. 1, 1836. | sion. | а | Ь | c | d |
| 586 587 588 589 590 | Cancri Lyncis | 7 8 8 8 | 3 3 3 1 | h. m. s. 8 6 50,85 7 20,41 7 23,87 7 36,56 8 46,54 | s. +1,884 3,266 3,660 4,610 3,260 | -8,7044 ,5532 ,5992 ,7754 ,5573 | ,7594 ,8051 ,9799 | ,5140 ,5635 ,6637 | 7,7886 8,2642 8,6816 |
| 591 592 593 594 595 | Navis Cancri | 8 8 8.9 9 | 3 4 3 4 5 | 9 29,98 9 52,24 13 25,12 14 2,26 16 41,15 | 3,259 2,750 3,288 3,443 3,670 | -8,5595 ,5710 ,5729 ,5900 ,6305 | ,7645 ,7538 ,7681 | ,4393 ,5169 ,5369 | 7,8600 8,0948 |
| 596 597 598 599 600 | Navis Monocer. | 7.8 7.8 6 8 | | 16 54,11 17 55,64 18 2,19 20 12,50 24 1,70 | 3,584 3,226 2,589 3,031 2,697 | -8,6176 ,5818 ,6153 ,5840 ,6179 | ,7442 ,7773 ,7369 | ,5087 ,4131 | -7,7343 +8,2166 +7,1232 |
| 601 602 603 604 605 | Hydræ Cancri | 8.9 7.8 8 7.8 | 4 | 24 24,09 25 16,31 26 52,13 29 40,79 29 41,71 | 3,019 3,023 3,129 3,459 3,764 | —8,5951 ,5973 ,6017 ,6357 ,6860 | ,7302 ,7283 ,7513 | ,4804 ,4954 ,5389 | +7,2253 -7,3597 -8,1746 |
| 606 607 608 609 610 | Pixid. Naut. 4 Leo. Min. Cancri | 8 7,8 7 8 8 | 1 2 2 3 2 | 29 43,74 30 4,50 30 7,39 30 15,99 30 53,26 | 3,457 2,555 3,742 3,466 3,445 | 8,6356 ,6547 ,6831 ,6383 ,6384 | ,7515 | +0,5387 ,4074 ,5731 ,5398 ,5372 | 8,1728 + ,2945 ,4134 ,1853 ,1742 |
| 611 612 613 614 615 | Cancri Monocer. Cancri 10 Hydræ Lyncis | 8 9 8 7 9.10 | 4 2 3 3 5 | 31 47,06 35 33,42 36 8,89 36 19,90 36 33,36 | 3,473 2,948 3,433 3,182 4,468 | 8,6432 ,6251 ,6491 ,6266 ,8506 | +8,7504 ,7177 ,7392 ,7162 ,9389 | ,4695 | 8,1986 +7,6877 8,1704 7,1647 8,7559 |
| 616 617 618 619 620 | Hydræ pre. Cancri Navis Cancri | 8 7.8 8.9 9 | 4 3 2 3 3 | 37 3,46 37 3,80 37 29,13 38 53,33 39 43,76 | 3,032 3,032 3,272 2,142 3,308 | 8,6260 ,6260 ,6350 ,7589 ,6434 | +8,7127 ,7127 ,7202 ,8389 ,7199 | ,5148 ,3308 | +7,1724 +7,1724 -7,9227 +8,5847 -8,0015 |
| 621 622 623 624 625 | Lyncis Cancri Navis Pixid. Naut. | 8 9 7 7 6.7 | 4 3 3 4 4 | 40 39,64 41 39,57 42 14,54 43 10,21 43 11,98 | 4,207 3,410 2,159 2,511 2,432 | -8,8100 ,6595 ,7652 ,6970 ,7118 | +8,8826 ,7285 ,8324 ,7604 ,7752 | ,3998 | -8,6822 -,1636 +,5914 +,3808 +,4383 |
| 626 627 628 629 630 | 3 H Navis Cancri Hydræ pre. | 7.8 8 7.8 9 8 | 4 3 8 4 4 | 43 32,97 44 31,91 44 35,04 44 37,73 45 9,93 | 2,229 3,445 3,397 3,337 3,227 | -8,7542 ,6710 ,6647 ,6578 ,6491 | +8,8163 ,7291 ,7225 ,7153 ,7049 | +0,3481 ,5372 ,5311 ,5234 ,5088 | +8,5598 -8,2167 -8,1582 -8,0713 -7,8443 |

| No. | No. Obs. | Declination Jan. 1, 1836. | Annual Preces- | and an analysis of the second | Logarith | ms of | | zi No. | Annual | Р. М. |
|---------------------------------|--------------------------------------|--|--|---|---|---|---|---------------------------------|--|---|
| | | | sion. | a' | <i>b</i> ′ | c' | d' | Piazzi | A. R. | Decn. |
| 586 587 588 589 590 | 3 4 4 3 4 | -46 9 18,92 + 9 54 10,25 +27 32 56,11 +53 42 4,49 + 9 40 0,61 | | +9,9605 +9,4487 -7,9031 -9,6294 +9,4564 | +9,5791 -8,9581 -9,3881 -9,6302 -8,9523 | —1,0229 ,0247 ,0249 ,0260 ,0292 | 9,9297 ,9290 ,9289 ,9285 ,9272 | 29 26 24 23 34 | s. +,016 +,007 +,010 +,004 +,010 | +0,03 -,20 -,01 -,03 -,10 |
| 591 592 593 594 595 | 4 1 2 3 4 | + 9 39 14,55 -15 46 56,30 +11 10 47,32 +18 39 24,39 +28 35 32,12 | 10,742 10,774 11,033 11,082 11,276 | +9,4579 +9,8109 +9,4216 +9,1614 -8,1761 | -8,9538 +9,1650 -9,0278 -9,2471 -9,4300 | 1,0314 ,0324 ,0427 ,0446 ,0521 | -9,9263 ,9259 ,9216 ,9208 ,9174 | 36 39 48 51 61 | +,007 +,024 +,016 +,023 +,003 | - ,14 - ,08 + ,04 + ,02 + ,01 |
| 596 597 598 599 600 | 3 4 3 3 4 | +25 4 0,19 + 8 10 55,46 -23 31 3,76 - 1 58 42,74 -18 57 21,63 | 11,290 11,362 11,368 11,530 11,796 | +8,6335 9,4955 9,8615 9,6646 9,8280 | 9,3778 8,9059 +9,3550 +8,2990 +9,2816 | 1,0527 ,0555 ,0556 ,0618 ,0717 | —9,9171 ,9158 ,9157 ,9127 ,9077 | 66 70 74 81 94 | -,003 +,010 +,005 -,001 +,001 | - ,25 - ,06 - ,02 - ,02 + ,07 |
| 601 602 603 604 605 | 4 4 2 4 | - 2 37 38,78 - 2 25 18,28 + 3 18 9,78 +20 14 47,66 +33 17 59,65 | 11,823 11,884 11,997 12,192 12,197 | +9,6721 +9,6702 +9,5877 +9,1238 -8,8573 | +8,4330 $+8,4010$ $-8,5351$ $-9,3230$ $-9,5237$ | -1,0727 ,0750 ,0791 ,0861 ,0862 | —9,907 1 ,9059 ,9037 ,8997 ,8996 | 97 100 107 118 117 | +,018 +,011 +,004 +,021 +,009 | - ,06 - ,02 - ,04 - ,10 - ,04 |
| 606 607 608 609 610 | 3 4 4 2 | $ \begin{array}{rrrr} +20 & 9 \\ -25 & 50 & 52,38 \\ +32 & 30 & 59,00 \\ +20 & 39 & 32,10 \\ +20 & 6 & 19,29 \end{array} $ | 12,197 12,216 12,225 12,234 12,280 | +9,1271 +9,8669 -8,7781 +9,1038 +9,1367 | -9,3214 + ,4247 - ,5155 - ,3326 - ,3230 | -1,0862 ,0869 ,0872 ,0876 ,0892 | —9,8996 ,8992 ,8990 ,8988 ,8978 | 119 125 120 121 128 | +,015 +,006 +,005 +,015 +,019 | - ,03 + ,05 ,00 - ,14 |
| 611 612 613 614 615 | 4 1 4 3 4 | $ \begin{array}{r} +21 & 3 & 15,01 \\ -6 & 38 & 0,48 \\ +19 & 24 & 24,55 \\ +6 & 16 & 14,69 \\ +53 & 31 & 28,64 \end{array} $ | 12,340 12,597 12,613 12,650 12,641 | +9,0864 9,7168 9,1790 9,5366 —9,5623 | -9,3446 +9,8609 -9,3212 -8,8382 -9,7062 | 1,0913 ,1002 ,1018 ,1021 ,1029 | —9,8965 ,8909 ,8899 ,8897 ,8892 | 135 151 156 157 153 | +,004 -,009 ,000 | + ,08 ,05 ,05 + ,04 ,06 |
| 616 617 618 619 620 | 3 4 4 3 2 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 12,700 12,700 12,727 12,817 12,879 | +9,6637 ,6637 ,4407 ,9227 ,3944 | +8,3482 +8,3482 -9,0904 +9,6316 -9,1660 | -1,1038 ,1038 ,1047 ,1078 ,1099 | ,8879 ,8858 | 159 160 161 169 171 | +,001 +,004 +,001 +,024 +,024 | -,00 -,04 -,03 -,41 +,02 |
| 621 622 623 624 625 | $\begin{vmatrix} 2\\2 \end{vmatrix}$ | +48 10 46,31 +18 38 24,29 -41 51 37,70 -28 51 18,50 -32 10 16,96 | 12,946 13,008 13,039 13,106 13,106 | -9,4472 +9,2253 9,9191 9,8722 9,8865 | | ,1142 ,1152 ,1174 | ,8805 ,8789 | 174 181 187 188 190 | +,021 +,023 +,023 | - ,23 + ,06 + ,05 + ,12 - ,02 |
| 626 627 628 629 630 | 4 5 4 | $\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$ | 13,198 13,203 13,207 | ,2504 | ,3642 ,3121 ,2323 | ,1205 ,1206 ,1208 | ,8766 ,8765 ,8763 | 196 197 | $\begin{vmatrix} -0.04 \\ +0.09 \\ +0.023 \end{vmatrix}$ | - ,07 - ,01 - ,01 - ,13 + ,03 |

| No. | Star's name and | Mag. | No. Obs. | I Asc | Right cension | Annual Preces- | | Logarit | hms of | |
|---------------------------------|---|------------------------------|-----------------------|----------|---|--|---|---|--|--|
| | *************************************** | | Obs. | Jan. | 1, 1836. | sion. | a | ь | | d |
| 631 632 633 634 635 | 2,17 Hydræ seq. Cancri Hydræ | 9 9 7 9 | 4 4 4 4 | 8 | m. s. 45 10,21 47 27,55 47 51 40,09 52 58,72 | s. +3,227 2,940 3,393 3,036 3,036 | -8,6491 ,6523 ,6709 ,6577 ,6604 | ,6991 ,7175 ,6885 | +0,5088 ,4683 ,5306 ,4823 ,4823 | +7,7593 |
| 636 637 638 639 640 | Hydræ Cancri | 8.9 8 8.9 9 | 3 4 3 4 2 | | 53 9,68 53 18,01 53 56,18 54 14,70 54 22,63 | 3,175 3,054 2,937 3,324 3,594 | -8,6631 ,6608 ,6660 ,6773 ,7192 | ,6854 ,6882 ,6983 | +0,5017 ,4849 ,4679 ,5217 ,5556 | +6,8321 $+7,7958$ $-8,0851$ |
| 641 642 643 644 645 | Lyncis Monocer. 74 Cancri Hydræ Navis | 9.10 8 9 8.9 8.9 | 3 3 4 | | 55 25,20 55 52,49 59 3,95 59 43,61 0 37,53 | 3,849 2,833 3,328 3,038 2,196 | -8,7750 ,6785 ,6878 ,6735 ,8097 | +8,7915 ,6934 ,6906 ,6737 ,8067 | ,4522 ,522 2 ,4826 | -8,1105 |
| 646 647 648 649 650 | Pix. Naut. Hydræ Monocer. Hydræ | 7 8 8 7 9 | 4 4 4 1 | | 1 29,47 2 34,18 4 19,31 4 28,42 4 50,19 | 2,627 2,630 2,967 2,748 3,140 | ,7218 ,6844 ,7066 | ,6672 | +0,4195 ,4200 ,4723 ,4390 ,4969 | +7,7225 +8,2211 |
| 651 652 653 654 655 | Cancri Hydræ Navis | 9 7.8 8 8 7.8 | 4 | | 4 54,03 5 14,22 6 17,41 6 31,62 6 59,00 | 3,511 2,825 2,839 3,006 2,355 | -8,7280 ,6979 ,6984 ,6868 ,7897 | ,6775 ,6739 ,6612 | +0,5454 ,4510 ,4532 ,4780 ,3720 | |
| 656 657 658 659 660 | Cancri Hydræ Navis Hydræ Leonis | 8 7 7.8 7 8.9 | 4 | | 7 14,29 7 30,90 9 19,87 9 21,25 10 25,12 | 3,391 2,939 2,388 2,844 3,543 | -8,7127 ,6919 ,7880 ,7037 ,7461 | +8,6844 ,6625 ,7521 ,6675 ,7057 | +0,5303 ,4682 ,3780 ,4539 ,5494 | +7,8390 +8,5669 |
| 661 662 663 664 665 | Hydræ Leonis | 7.8 6.7 7 7 7.8 | | | 11 13,83 11 48,85 12 11,72 12 20,95 12 21,07 | 3,160 2,826 3,081 2,928 3,287 | 8,6962 ,7104 ,6957 ,7012 ,7086 | +8,6530 ,6648 ,6486 ,6536 ,6610 | +0,4997 ,4512 ,4887 ,4666 ,5168 | 7,7070 +8,1281 6,8754 +7,8915 8,0862 |
| 666 667 668 669 670 | Hydræ Ursœ Maj. Hydræ | 8.9 9 9.10 8.9 9 | 2 | | 13 10,21 14 42,13 15 43,32 16 1,76 16 47,58 | 2,831 3,133 2,996 4,056 3,144 | -8,7121 ,7017 ,7030 ,8804 ,7051 | +8,6615 ,6443 ,6424 ,8186 ,6403 | ,4765 | +8,1228 $-7,5658$ $+7,6134$ $-8,7546$ $-7,6424$ |
| 671 672 673 674 675 | Leonis Leonis Lydræ | 9 8 7 8.9 8.9 | | | 17 18,57 17 31,55 18 31,84 20 49,61 22 44,07 | 2,981 3,340 4,821 3,038 2,995 | -8,7063 8,7248 9,0605 8,7101 8,7144 | +8,6396 ,6573 ,9890 ,6298 ,6269 | + 0,4744 ,5237 ,6831 ,4826 ,4764 | 8,2001 9, 01 33 +7,2637 |

| I | Vo. | No. Obs. | Declination Jan. 1, 1836. | Annual Preces- | | Logarit | hms of | | zi No. | Annua | I Р. М. |
|----------------|---------------------------------|-----------------------|---|---|---|---|---|---|---------------------------------|---|---|
| | | Obs. | | sion. | a' | b' | c' | d' | Piazzi | A. Ŗ. | Decn. |
| 6 | 331 332 333 334 335 | 3 4 3 4 | + 9 2 4,75 - 7 20 49,85 +18 6 21,48 - 1 54 49,83 - 1 55 15,68 | -13,237 13,390 13,394 13,661 13,746 | +9,4928 ,7202 ,2553 ,6609 | -9,0150 +8,9318 -9,3173 +8,3578 +8,3605 | ,1268 ,1269 ,1355 | -9,8756 ,8716 ;8715 ,8644 ,8620 | 201 215 213 228 235 | s. +,007 +,019 +,008 -,005 | +0,04 -,08 +,02 +,02 +,01 |
| 6 | 36 37 38 39 40 | 4 4 4 4 | $\begin{array}{c} + 6 & 17 & 31,68 \\ - 0 & 50 & 14,09 \\ - 7 & 43 & 52,24 \\ + 14 & 49 & 33,88 \\ + 28 & 32 & 32,57 \end{array}$ | 13,759 13,768 13,803 13,828 13,834 | +9,5453 9,6484 9,7226 9,3692 8,5441 | -8,8758 +8,0082 +8,9679 -9,2465 -9,5184 | -1,1386 ,1388 ,1400 ,1407 ,1410 | —9,8616 ,8614 ,8603 ,8597 ,8595 | 236 237 238 240 239 | +,021 +,018 +,012 +,045 +,010 | + ,04 - ,14 - ,06 - ,17 - ,03 |
| 6 6 | 41 42 43 44 45 | 1 3 4 4 4 | +39 5 27,58 -13 47 30,70 +15 22 1,20 - 1 49 4,83 -42 50 35,69 | 13,902 13,928 14,128 14,169 14,223 | -9,0682 +9,7723 9,3617 9,6590 9,9015 | -9,6408 +9,2189 -9,2709 +8,3504 +9,6836 | -1,1431 ,1439 ,1501 ,1513 ,1530 | —9,8575 ,8568 ,8509 ,8496 ,8480 | 243 246 257 260 266 | -,020 +,010 +,039 +,010 ,000 | + ,11 + ,16 - ,13 + ,03 + ,11 |
| 6 6 | 46 47 48 49 50 | 3 4 4 4 3 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 14,275 14,341 14,450 14,458 14,479 | +9,8401 ,8388 ,7050 ,8035 ,5786 | +9,4815 +9,4830 +8,8960 +9,3726 -8,7518 | -1,1546 ,1566 ,1599 ,1601 ,1607 | -9,8463 ,8442 ,8407 ,8405 ,8398 | 268 5 10 13 15 | +,001 +,018 +,020 +,011 +,019 | - ,12 - ,11 - ,07 + ,06 - ,09 |
| 6 6 | 51 52 53 54 55 | 3 4 4 4 4 | +25 41 13,17 —14 44 56,82 —14 1 9,97 — 3 51 47,95 37 56 28,71 | 14,487 14,502 14,567 14,583 14,607 | +8,9638 9,7752 9,7686 9,6803 9,8825 | -9,4956 +9,2653 +9,2456 +8,6889 +9,6514 | -1,1610 ,1614 ,1634 ,1638 ,1646 | —9,8395 ,8390 ,8369 ,8363 ,8355 | 12 16 21 22 26 | +,015 +,009 +,007 +,014 +,014 | - ,01 - ,01 + ,05 - ,02 + ,02 |
| 6 6 | 56 57 58 59 60 | 4 4 1 4 4 | +19 29 20,79 — 8 3 47,16 —36 56 59,11 —13 53 29,41 +27 51 9,29 | 14,627 14,643 14,747 14,750 14,817 | +9,2577 9,7210 9,8774 9,7664 8,8388 | -9,3863 +9,0108 +9,6457 +9,2479 -9,5382 | -1,1651 ,1656 ,1687 ,1688 ,1707 | —9,8349 ,8343 ,8308 ,8306 ,8306 | 25 27 44 39 45 | +,001 -,001 +,015 +,016 -,011 | - ,02 + ,07 ,00 + ,04 - ,02 |
| 6 6 | 61 62 63 64 65 | 4 4 4 4 | + 5 54 19,27 -15 8 41,30 + 0 52 23,41 - 8 55 3,37 +13 48 24,11 | 14,860 14,897 14,918 14,927 14,927 | +9,5599 ,7738 ,6274 ,7251 ,4183 | -8,8808 +9,2887 -8,0515 +9,0623 -9,2494 | -1,1720 ,1730 ,1737 ,1739 ,1739 | —9,8268 ,8255 ,8247 ,8244 ,8244 | 49 52 54 56 55 | +,012 +,017 +,015 +,013 +,018 | - ,01 + ,17 ,00 + ,03 - ,06 |
| 6 6 | 66 67 68 69 70 | 2 4 4 4 4 | $ \begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$ | 14,973 15,006 15,123 15,142 .15,182 | +9,7716 + ,5855 + ,6866 - ,3053 + ,5740 | +9,2840 -8,7407 +8,7881 -9,7523 -8,8168 | -1,1753 ,1780 ,1796 ,1802 ,1814 | -9,8227 ,8193 ,8171 ,8164 ,8147 | 59 64 71 70 76 | +,022 +,010 -,006 -,002 +,004 | - ,26 - ,04 - ,02 - ,08 |
| 6' 6' 6' | 71 72 73 74 75 | 4 4 4 2 3 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 15,213 15,226 15,287 15,413 15,518 | +9,6964 + ,3424 - ,5888 + ,6599 + ,6875 | +8,8773 -9,3559 -9,8352 +8,4395 +8,8248 | —1,1823 ,1826 ,1843 ,1879 ,1908 | —9,8136 ,8131 ,8108 ,8056 ,8014 | 80 79 82 95 102 | +,009 +,017 +,055 +,021 +,012 | - ,09 + ,08 - ,01 - ,05 - ,16 |

| No. | Star's name and Ma | | No. | A s | Rigi | ht sion | Annual Preces- | | Logarit | hms of | The second secon |
|----------------------------------|---|-------------------------------|-----------------------|---------|----------------------------|--|--|---|---|---|--|
| 140. | Star 5 hame and ma | .g. (| Obs. | | | 1836. | sion. | а | ь | c | d |
| 676 677 678 679 680 | Leonis Hydræ Sextantis Leo. Min. | 5 8 9 6.7 8.9 | 4 4 4 4 4 | h. 9 | 24 25 | s. 41,26 12,59 57,75 57,93 8,52 | s. +3,536 3,105 3,198 3,582 3,556 | 8,7728 ,7155 ,7230 ,7903 ,7888 | +8,6815 ,6223 ,6228 ,6862 ,6763 | +0,5485 ,4921 ,5049 ,5541 ,5510 | -8,4595 7,3666 7,9125 8,5131 8,4992 |
| 681 682 683 684 685 | Hydræ Leo. Min. Leonis Sextantis | 8.9 8 7 8 9 | 5 4 4 4 | | 29 31 33 | 13,37 50,12 52,04 6,08 56,40 | 3,102 3,104 3,570 3,544 3,114 | 8,7230 ,7239 ,7981 ,7943 ,7314 | +8,6101 ,6086 ,6744 ,6662 ,5961 | +0,4916 ,4919 ,5527 ,5495 ,4933 | -7,3479 7,3750 8,5 2 23 8,5041 7,4979 |
| 686 687 688 689 690 | Antl. Pneum. Sextantis | 7 8 7.8 7 7.8 | 4 2 4 3 4 | | 37 37 37 37 38 | 2,29 4,86 28,61 55,78 6,02 | 3,371 2,753 2,673 3,102 3,101 | -8,7641 ,7665 ,7838 ,7352 ,7354 | +8,6203 ,6227 ,6386 ,5879 ,5874 | +0,5278 ,4398 ,4270 ,4916 ,4915 | 8,3230 +8,3404 +8,4393 7,3778 7,3664 |
| 691 692 693 694 695 | Leonis Sextantis | 8 8 7 8.9 7 | 4 4 4 4 | | 40 41 42 | 24,98 50,82 4,03 57,86 18,20 | 3,227 3,054 | -8,7409 ,7825 ,7484 ,7415 ,7499 | ,5852 ,5738 | +0,4742 ,5350 ,5088 ,4849 ,4695 | +7,8003 -8,4133 -8,0609 +7,0248 +7,9514 |
| 696 697 698 699 700 | Leonis Sextantis | 8 8.9 7.8 7.8 8.9 | 2 4 3 4 4 | | 46 47 47 | 29,32 14,45 12,21 14,99 59,95 | 3,170 2,935 3,176 | ,7538 ,7516 | ,5686 ,5688 ,5663 | ,5011 ,4676 ,5019 | -7,7438 -7,8879 +8,0055 -7,9179 -8,5157 |
| 701 703 703 704 704 | seq. | 7.8 7.8 7.8 7.8 | 4 4 | | 49 50 52 | 23,26 28,06 14,72 41,28 36,46 | 3,053 3,138 3,038 | ,7496 ,7525 ,7538 | ,5552 ,5548 ,5457 | ,4966 ,4826 | +7,0675 +7,0646 -7,7393 +7,3788 +8,1025 |
| 706 707 708 708 716 | Sextantis Ursœ Maj. Sextantis | 8 7.8 8 8 | 4 4 4 3 4 | 10 | 55 55 5 58 | 46,18 | 3,125 4,104 3,118 | 8,7577 9,0144 8,7606 | ,5393 ,7929 ,5299 | ,4948 ,6132 ,4939 | 8,9352 7,6305 |
| 71 71 71 71 71 | Leo. Min. Camelop. Leonis | 8 7.8 8 8 8.9 | 4 | | | 54,00 | $\begin{bmatrix} -3,215 \\ 10,371 \\ -3,306 \end{bmatrix}$ | 8,7847 9,8518 8,8033 | 8,5011 9,5631 8,5148 | 0,5072 1,0158 0,5193 | -8,1492 -9,8503 -8,3616 |
| 71 71 71 71 71 72 | 7 Antl. Pneum. 8 Hydræ 9 Sextantis | 8.9 8 neb. 8.9 | 3 4 | | 14 | | $\begin{bmatrix} -2,744 \\ -2,882 \\ 3,049 \end{bmatrix}$ | ,8338 7999 7812 | 5267 ,4830 ,4509 | ,4384 ,4597 ,4842 | +8,5159 +8,2860 +7,3018 |

| | | | A 7 | ATTERIOR AND AND AND AND AND AND AND AND AND AND | AAD gebrooms | | <u> </u> | 6 | Branch Astronomy | |
|---------------------------------|-----------------------|--|---|---|---|---|---|---------------------------------|---|---|
| No. | No. Obs. | Declination Jan. 1, 1836. | Arnual Preces- sion. | | Logarith | ms of | | zzi No. | Annua | l P. M. |
| | | 3 / 11 | <u>"</u> | a' | Ъ′ | c' | d' | Piazzi | A. R. | Decn. |
| 676 677 678 679 680 | 5 3 4 4 4 | +29 5 26,00 + 2 35 12,75 + 8 54 46,76 +31 53 34,92 +30 53 13,85 | -15,573 15,599 15,698 15,751 15,866 | +8,8751 9,6085 9,5224 8,6128 8,7634 | 9,5871 8,5422 9,0834 9,6181 9,6088 | —1,1924 ,1931 ,1958 ,1973 ,2005 | —9,7990 ,7979 ,7937 ,7913 ,7860 | 109 114 119 124 131 | s. -,004 +,014 +,007 +,002 +,027 | - ,01 ,00 - ,02 - ,02 - ,01 |
| 681 682 683 684 685 | 4 3 4 4 4 | $\begin{array}{c} + \ 2 \ 25 \ 41,39 \\ + \ 2 \ 34 \ 22,10 \\ + 32 \ 1 \ 11,30 \\ + 30 \ 51 \ 19,04 \\ + \ 3 \ 22 \ 26,35 \end{array}$ | 15,872 15,905 16,017 16,078 16,171 | +9,6107 9,6096 8,6902 8,8261 9,6010 | 8,5236 8,5507 9,6268 9,6140 8,6734 | —1,2007 ,2015 ,2046 ,2062 ,2087 | —9,7858 ,7843 ,7790 ,7761 ,7715 | 134 138 145 155 161 | +,007 -,007 +,005 -,001 +,004 | + ,04 + ,05 + ,11 + ,05 + ,08 |
| 686 687 688 689 690 | 4 3 3 4 4 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 16,280 16,280 16,298 16,324 16,335 | +9,2856 ,7924 ,8129 ,6117 ,6117 | -9,4686 +9,4836 +9,5657 -8,5534 -8,5420 | —1,2117 ,2117 ,2121 ,2128 ,2131 | -9,7659 ,7659 ,7650 ,7636 ,7631 | 165 167 170 171 172 | +,018 -,018 +,015 +,004 +,015 | + ,06 - ,01 ,00 - ,03 - ,01 |
| 691 692 693 694 695 | 4 4 4 4 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 16,449 16,472 16,485 16,578 16,688 | +9,6964 ,1732 ,4885 ,6474 ,7126 | +8,9735 -9,5456 -9,2276 +8,2008 9,1219 | -1,2161 ,2167 ,2171 ,2195 ,2224 | -9,7570 ,7557 ,7550 ,7498 ,7434 | 180 183 184 192 203 | +,021 +,010 +,010 +,003 +,018 | + ,02 - ,02 - ,09 - ,05 + ,02 |
| 696 697 698 699 700 | 4 4 4 4 | $\begin{array}{c} + 5 & 43 \\ + 7 & 56 & 34,24 \\ -10 & 15 & 45,08 \\ + 8 & 27 & 8,53 \\ +30 & 18 & 44,70 \end{array}$ | 16,698 16,736 16,781 16,784 16,870 | +9,5763 ,5490 ,7202 ,5428 ,0128 | 8,9177 9,0598 +9,1745 9,0892 9,6280 | —1,2227 ,2237 ,2248 ,2249 ,2271 | -9,7428 ,7405 ,7378 ,7377 ,7324 | 204 206 210 208 214 | +,008 +,017 +,025 +,013 +,017 | ,14 ,07 ,00 ,18 |
| 701 702 703 704 705 | 3 4 4 4 4 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 16,885 16,889 16,926 17,041 17,126 | +9,6474 ,6474 ,5798 ,6590 ,7300 | +8,2405 +8,2406 -8,9134 +8,5545 +9,2682 | —1,2275 ,2276 ,2286 ,2315 ,2337 | -9,7314 ,7312 ,7288 ,7214 ,7156 | 219 220 222 228 232 | +,008 +,010 +,011 +,012 +,004 | + ,03 ,01 ,05 ,01 + ,07 |
| 706 707 708 709 710 | 4 4 4 4 | +10 41 20,69 + 4 45 32,89 +56 27 9,11 + 4 16 20,90 +12 50 30,71 | 17,119 17,150 17,183 17,278 17,488 | +9,5185 + ,5899 - ,2765 + ,5966 + ,4983 | 9,1994 8,8504 9,8539 8,8054 9,2868 | -1,2340 ,2343 ,2351 ,2375 ,2427 | -9,7148 ,7139 ,7116 ,7048 ,6890 | 234 235 236 243 4 | +,010 +,012 +,004 -,001 +,017 | - ,05 - ,14 + ,02 - ,18 - ,07 |
| 711 712 713 714 715 | 2 4 4 3 3 | +69 44 44,48 +13 26 25,43 +85 13 44,30 +21 13 31,79 -28 8 22,75 | 17,770 17,770 17,824 17,821 17,851 | 9,4533 + ,4983 ,6228 + ,3802 + ,7767 | —9,9199 — ,3133 — ,9475 — ,5072 + ,6237 | —1,2497 ,2497 ,2510 ,2509 ,2517 | —9,6651 ,6651 ,6602 ,6605 ,6578 | 30 34 14 37 43 | +,007 +,010 -,016 +,007 +,011 | - ,10 - ,10 - ,02 + ,07 + ,08 |
| 716 717 718 719 720 | 4 3 4 4 | +18 20 25,21 -28 43 55,36 -17 48 46,15 - 1 52 45,52 -32 34 13,81 | 17,928 17,977 18,056 18,158 18,246 | +9,4330 ,7730 ,7372 ,6513 ,7701 | -9,4488 +9,6349 +9,4407 +8,4776 +9,6904 | —1,2535 ,2547 ,2566 ,2591 ,2612 | —9,6505 ,6457 ,6377 ,6268 ,6169 | 50 56 68 81 92 | +,011 +,012 +,038 +,012 +,028 | - ,10 + ,16 - ,07 - ,10 + ,04 |

| No. | Star's name and M | ag. | No. Obs. | A | Right scension | Annual Preces- | | Logarit | hms of | |
|---------------------------------|---|---------------------------|-----------------------|----------|---|--|--|---|---|---|
| Talah ay | | | O DS. | Jan | . 1, 1836. | sion. | α | b | c . | d |
| 721 722 723 724 725 | Ursæ Maj. Hydræ Navis Antl. Pneum. | 8 8 8 6.7 8 | 4 3 4 4 | h. 10 | m. s. 22 28,51 23 42,44 24 38,07 24 58,27 25 22,19 | s. +3,837 3,715 2,842 2,545 2,726 | —9,0187 8,9765 ,8206 ,9304 ,8601 | +8,6737 ,6254 ,4648 ,5731 ,5008 | +0,5840 ,5701 ,4536 ,4057 ,4355 | 8,9290 8,8608 +8,4087 +8,7740 +8,5909 |
| 726 727 728 729 730 | Antl. Pneum. Hydræ Leonis Sextantis | 8 8.9 8 9 | 4 4 4 4 | | 27 11,54 29 1,27 31 9,65 32 53,66 34 39,35 | 2,727 2,807 2,916 3,197 3,115 | —8,8635 ,8383 ,8093 ,8066 ,7952 | ,4598 ,4194 ,4071 | +0,4357 ,4482 ,4648 ,5047 ,4935 | +8,4926 +8,2686 -8,2143 |
| 731 732 733 734 735 | Leo. Min. Antl. Pneum. Hydræ Sextantis Hyd. & Crat. | 8 8 8 8 | 4 4 4 4 4 | | 36 45,98 37 22,57 38 55,05 42 0,86 42 44,02 | 2,809 2,945 3,004 | -8,8638 ,8527 ,8112 ,8028 ,8032 | ,4281 ,3776 ,3507 | ,4691 | +8,5362 +8,2213 +7,9544 |
| 736 737 738 739 740 | Sextantis Leonis Ursæ Maj. Leonis | 8 8.9 7 8.9 8 | 4 | | 43 25,43 43 37,76 46 51,47 47 24,28 49 53,12 | 3,132 3,456 3,130 | ,8040 ,9365 ,8067 | ,4542 ,3210 | ,4958 ,5386 ,4955 | 7,9643 8,7692 7,9781 |
| 741 742 743 744 745 | Leonis ———————————————————————————————————— | 8 8.9 7.8 8 8 | | | 50 58,84 52 45,63 53 59,95 54 9,28 55 35,79 | 3,178 3,135 3,073 | ,8220 ,8124 ,8059 | ,3005 ,2827 ,2751 | ,5021 ,4962 ,4876 | 8,2592 8,0535 6,9323 |
| 746 747 748 749 750 | | 8 7.8 7.8 7.8 | 1 3 4 | | 55 37,58 55 56,46 58 4,71 58 39,39 59 22 ,59 | 3,156 3,118 3,137 | ,8190 ,8120 ,8164 | ,2560 ,2530 | ,4991 ,4939 ,4965 | 8,1883 7,9555 8,1003 |
| 751 752 753 754 755 | Leo. Min. Leonis | 7 7 8.9 8 | 4 4 4 5 3 | 11 | 59 54,68 0 0,69 3 14,05 5 55,98 6 7,77 | 3,181 3,323 3,077 | ,8309 ,9126 ,8120 | ,2575 ,3137 ,1912 | ,5026 ,5215 ,4481 | $\begin{bmatrix} -8,3229 \\ -8,6997 \\ -7,3010 \end{bmatrix}$ |
| 756 757 758 759 760 | Leonis Crateris | 7.8 7 8 8 | 3 4 3 4 4 | | 9 4,76 9 47,63 10 26,23 11 26,0 13 2,53 | 3,134 3,037 2, 3,038 | ,824 <i>8</i> ,816 ,816 | ,1703 2 ,1559 3 ,1472 | ,496 ,482 ,4826 | -8,1716 +7,8378 +7,8389 |
| 761 762 763 764 765 | Hydræ Ursæ Maj. Hydræ | 7.8 7 7 8 | 3 4 4 | | 14 37,2 14 53,78 15 26,96 15 51,6 17 14,76 | 2,883 3,369 1 2,888 | 8,904 9,003 8,903 | ,202 ,295 ,1923 | ,4598 ,5278 ,4600 | $\begin{array}{c c} + 8,6660 \\ - 8,8840 \\ + 8,6640 \end{array}$ |

| | | innen manantariaksi katingananininganinganinganinganinganinga | | | | | | . 1 | | 1 |
|---------------------------------|-----------------------|---|---|---|---|---|---|---------------------------------|---|---|
| No. | No. Obs. | Declination Jan. 1, 1836. | Annual Preces- | | Logarith | ms of | | zzi No. | Annual | Р. М. |
| | | 0 / // | sion. | a' | b' | c' | d' | Piazzi | A. R. | Decn. |
| 721 722 723 724 725 | 4 5 3 4 3 | +54 25 35,81 +50 1 14,71 -22 45 32,96 -44 13 29,33 -32 31 33,32 | -18,265 18,309 18,341 18,350 18,365 | -8,9445 -8,5185 +9,7451 7723 7642 | -9,8699 -9,8449 +9,5494 +9,8053 +9,6928 | —1,2616 ,2626 ,2634 ,2636 ,2640 | -9,6147 ,6096 ,6056 ,6045 ,6027 | 88 96 103 107 108 | s. +,011 +,027 +,007 -,004 +,022 | - ,10 - ,07 + ,04 - ,10 + ,06 |
| 726 727 728 729 730 | 4 4 4 4 4 | -32 55 8,09 -26 48 29,59 -16 43 31,34 $+14$ 49 54,01 $+$ 5 31 25,16 | 18,429 18,490 18,561 18,619 18,675 | +9,7619 ,7490 ,7202 ,5119 ,5988 | +9,6989 +9,6193 +9,4259 —9,3758 —8,9509 | —1,2655 ,2669 ,2686 ,2699 ,2713 | -9,5945 ,5865 ,5767 ,5685 ,5599 | 115 120 130 132 140 | +,020 +,019 +,016 +,020 +,026 | + ,08 ,00 - ,01 - ,16 - ,18 |
| 731 732 733 734 735 | 2 4 4 3 4 | +31 29 19,37 -28 49 24,41 -14 52 14,19 - 8 7 25,46 - 8 1 | 18,741 18,760 18,807 18,900 18,921 | +9,2672 ,7404 ,7059 ,6785 ,6776 | 9,6885 +9,6548 +9,3825 +9,1260 +9,1203 | —1,2728 ,2732 ,2743 ,2764 ,2769 | -9,5497 ,5467 ,5389 ,5224 ,5185 | 146 151 156 168 174 | +,020 +,017 +,020 +,029 +,011 | - ,01 + ,08 - ,22 - ,07 |
| 736 737 738 739 740 | 4 3 4 3 4 | $ \begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$ | 18,940 18,946 19,038 19,051 19,118 | +9,6776 ,5821 ,0212 ,5832 ,4579 | +9,1199 —9,1358 —9,8103 —9,1493 —9,5598 | —1,2774 ,2775 ,2796 ,2799 ,2814 | —9,5148 ,5137 ,4954 ,4923 ,4777 | 178 179 191 195 201 | +,021 +,013 +,009 +,017 +,030 | + ,01 - ,15 - ,08 - ,11 - '03 |
| 741 742 743 744 745 | 4 5 4 4 3 | +10 48 29,25 +15 54 14,61 +10 3 8,36 + 0 47 9,28 +39 7 43,06 | 19,147 19,192 19,223 19,226 19,262 | +9,5694 ,5289 ,5775 ,6335 ,2122 | 9,2522 9,4184 9,2229 8,1084 9,7827 | -1,2821 ,2831 ,2838 ,2839 ,2847 | 9,4709 ,4597 ,4521 ,4512 ,4412 | 204 213 220 221 228 | +,008 +,008 +,008 +,017 -,001 | - ,06 - ,29 - ,16 - ,09 - ,01 |
| 746 747 748 749 750 | 4 3 4 | + 0 51 6,15 +13 32 59,92 + 8 1 19,14 +11 5 54,38 +55 2 12,87 | 19,311 19,334 | +9,6335 ,5539 ,5944 ,5740 8,5563 | 8,1454 9,3521 9,1274 9,2682 9,8982 | —1,2847 ,2849 ,2858 ,2863 ,2867 | 9,4417 ,4394 ,4278 ,4209 ,4158 | 230 231 239 244 246 | +,002 +,008 +,016 | - ,08 - ,03 + ,03 - ,06 - ,28 |
| 751 752 753 754 755 | 5 4 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 19,364 19,437 19,492 | +9,6425 ,5224 ,2856 ,6304 ,5658 | +8,2411 -9,4770 -9,7737 -8,4768 -9,3562 | | —9,4120 ,4116 ,3877 ,3671 ,3655 | 250 251 5 15 17 | +,011 -,006 +,019 | - ,06 - ,11 - ,17 + ,01 - ,08 |
| 756 757 758 759 760 | 4 3 6 | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 19,569 19,581 19,599 | +9,3222 ,5740 ,6571 ,6571 ,6180 | 9,7600 9,3367 +9,0115 +9,0119 8,9150 | ,2915 ,2918 ,2922 | —9,3734 ,3353 ,3296 ,3208 ,3070 | 26 31 35 39 45 | $\begin{vmatrix} +,015 \\ +,004 \\ +,003 \end{vmatrix}$ | - ,15 - ,12 - ,08 - ,08 |
| 761 762 763 764 765 | 5 4 4 | + 5 2 1,68 -35 20 39,58 +49 30 16,23 -35 11 26,1 + 6 38 57,86 | 19,665 19,670 19,675 | ,1335 ,6674 | +9,7541 $-9,8727$ $+9,7529$ | ,2937 ,2938 ,2939 | ,2896 ,2838 ,2806 | 57 | $\begin{vmatrix} -,001 \\ -,001 \\ +,015 \end{vmatrix}$ | -,19 -,11 -,18 |

| No. | Star's name and | Mag. | No. Obs. | Right Ascension | Annual Preces- | | Logari | thms of | |
|---------------------------------|---|--|-----------------------|---|---|--|--|---|---|
| | | and the state of t | | Jan. 1, 1830. | sion. | a | b | c | d |
| 766 767 768 769 770 | Leonis 17 Hydræ Crateris | 8 6.7 8 8 7.8 | 4 | h. m. s. 11 22 30,50 24 9,19 24 22,98 25 17,51 26 1,26 | 2,956 2,948 3,048 | -8,8240 ,8742 ,8815 ,8211 ,8206 | -\-8,0345 8,0698 8,0754 8,0016 7,99 2 5 | +0,4837 ,4707 ,4695 ,4840 ,4846 | +7,8275 8,5513 8,5816 7,8143 7,7295 |
| 771 772 773 774 775 | Hydræ Ursæ Maj. Crateris Hydræ | 9 7 7.8 8 7.8 | 4 | 27 43,54 30 13,97 33 2,69 33 34,42 33 37,61 | 2,943 2,957 3,206 3,007 2,974 | -8,9006 ,8953 ,9508 ,8532 ,8908 | +8,0493 8,0088 8,0196 7,9132 7,9508 | +0,4688 ,4708 ,5060 ,4781 ,4733 | +8,6470 +8,6281 -8,7774 +8,4224 +8,6101 |
| 776 777 778 779 780 | Leonis Ursæ Maj, Leonis Virginis Leonis | 9 8 8 8 8 | 2 4 4 4 4 | 38 22,07 41 59,71 44 3,06 45 4,42 45 25,57 | 3,103 3,171 3,096 3,067 3,090 | 8,8389 ,9697 ,8417 ,8236 ,8379 | +7,8104 ,8608 ,6790 ,6323 ,6367 | +0,4918 ,5012 ,4908 ,4867 ,4900 | $\begin{bmatrix} -8,3014 \\ +7,5424 \end{bmatrix}$ |
| 781 782 783 784 785 | Virginis 65 Ursæ Maj. Leonis Virginis | 7 7.8 9.10 8 | | 45 39,99 46 26,91 46 32,47 46 56,64 47 0,72 | 3,076 3,068 3,151 3,089 3,070 | -8,8253 ,8232 ,9924 ,8404 ,8235 | +7,6159 ,5884 ,7533 ,5901 ,5710 | | -7,8273 +6,8054 -8,8591 -8,2807 -7,3627 |
| 786 787 788 789 790 | Leonis Virginis Leonis Virginis | 7.8 7.8 9.10 7 8.9 | 4 | 47 46,35 48 29,00 49 13,27 49 21,10 50 6,27 | 3,089 3,081 3,087 3,076 3,073 | 8,8418 ,8321 ,8436 ,8276 ,8253 | +7,5636 ,5266 ,5090 ,4875 ,4507 | +0,4898 ,4887 ,4895 ,4880 ,4876 | 8,2981 8,1286 8,3173 7,9639 7,7854 |
| 791 792 793 794 795 | Ursæ Maj. Virginis Corvi Leonis Hydræ | 8.9 8 8 8 7.8 | 3 4 4 | 52 11,19 53 4,32 55 53,49 57 2,46 59 53,89 | 3,146 3,073 3,060 3,073 3,068 | -9,1280 8,8274 ,8513 ,8461 ,9042 | +7,6488 7,2955 7,0859 6,9227 —5,6690 | +0,4978 ,4876 ,4857 ,4876 ,4869 | -7,9372 +8,3884 |
| 796 797 798 799 800 | Ursæ Maj. Corvi Virginis | 8.9 7.8 7 9.10 8 | 3 | 12 0 6,96 5 10,24 5 51,62 7 21,07 9 17,08 | 3,070 3,080 3,071 3,059 3,053 | —9,0146 8,8529 ,8253 ,8329 ,8393 | 6,1773 7,2252 ,2482 ,3498 ,4555 | +0,4871 ,4885 ,4873 ,4856 ,4847 | +7,7509 -8,1417 |
| 801 802 803 804 805 | *1 Virginis Comæ Ber. Virginis | 7 8 9 7.8 8 | 5 4 4 4 3 | 9 44,74 9 45,08 14 40,88 16 10,39 16 18,02 | 3,071 3,048 3,041 3,060 3,058 | -8,8241 ,8487 ,8427 ,8246 ,8251 | -7,4613 ,4859 ,6553 ,6800 ,6840 | ,4840 ,4830 ,4857 | +7,5525 —8,3686 —8,3119 —7,7833 —7,8395 |
| 806 807 808 809 810 | Virginis Centauri Virginis | 7.8 8 9 8 8.9 | 3 4 4 | 17 33,04 18 44,63 19 17,83 19 22,85 19 53,94 | 3,059 3,137 3,057 3,071 3,033 | -8,8243 ,8935 ,8242 ,8225 ,8405 | -7,7138 ,8115 ,7544 ,7541 ,7853 | +0,4856 ,4965 ,4853 ,4873 ,4819 | +8,6162 -7,7897 |

| No. | No. | Declination | Annual Preces- | | Logarith | ems of | | zi No. | Annual | Р. М. |
|---------------------------------|-----------------------|---|--|---|--|---|---|---------------------------------|---|---|
| | Obs. | Jan. 1, 1836. | sion. | a' | <i>b</i> ′ | c' | d' | Piazzi | A.R. | Decn. |
| 766 767 768 769 770 | 4 4 4 4 3 | - 5 48 55,68 -28 21 51,31 -30 4 6,57 - 5 37 56,65 - 4 37 22,27 | 19,779 19,801 19,802 19,817 19,826 | +9,6513 ,6590 ,6551 ,6503 ,6484 | +9,0013 ,6717 ,6948 8,9883 ,9041 | —1,2962 ,2967 ,2967 ,2970 ,2972 | —9,2092 ,1903 ,1887 ,1756 ,1672 | 91 95 97 104 108 | s. +,021 +,002 +,013 +,008 +,011 | -0,06 + ,17 - ,19 - ,17 - ,11 |
| 771 772 773 774 775 | 4 4 4 4 | -33 52 47,08 -32 41 51,28 +42 8 53,89 -21 44 37,22 -31 34 | 19,847 19,877 19,907 19,913 19,913 | +9,6415 ,6385 ,3874 ,6484 ,6335 | +9,7422 + ,7291 - ,8237 + ,5663 + ,7165 | -1,2977 ,2983 ,2990 ,2991 ,2991 | —9,1444 ,1099 ,0659 ,0572 ,0572 | 112 127 137 142 143 | +,023 +,012 +,051 +,005 +,015 | ,00 — ,02 — ,07 — ,06 |
| 776 777 778 779 780 | 4 4 4 4 | +15 54 45,01 +44 34 15,58 +16 45 50,49 - 2 58 15,36 +14 56 28,42 | 19,957 19,982 19,996 20,002 20,004 | +9,5933 ,4065 ,5977 ,6365 ,6064 | —9,4353 —9,8447 —9,4587 +8,7179 —9,4098 | 1,3001 ,3007 ,3009 ,3011 ,3011 | —8,9696 ,8898 ,8363 ,8078 ,7979 | 155 165 169 173 177 | -,003 +,026 +,012 +,009 +,007 | ,00 — ,10 — ,07 — ,04 — ,17 |
| 781 782 783 784 785 | 3 4 1 3 3 | $\begin{array}{c} + \ 5 \ 47 \ 26,33 \\ - \ 0 \ 31 \ 33,81 \\ +47 \ 23 \ 22,81 \\ +16 \ 1 \ 26,63 \\ + \ 2 \ 0 \ 39,83 \end{array}$ | 20,005 20,009 20,010 20,011 20,012 | +9,6345 ,6385 ,4014 ,6042 ,6375 | -9,0012 +7,9815 -9,8660 -9,4396 -8,5385 | -1,3011 ,3012 ,3012 ,3013 ,3013 | -8,7898 ,7645 ,7601 ,7490 ,7468 | 180 182 183 186 187 | +,018 +,015 +,016 +,022 +,018 | - ,09 - ,47 ,00 - ,07 - ,04 |
| 786 787 788 789 790 | 3 4 4 4 | +16 39 38,71 $+11 26 30,09$ $+17 20 39,71$ $+ 7 53 23,50$ $+ 5 15 17,53$ | 20,015 20,019 20,021 20,022 20,026 | +9,6031 ,6191 ,6021 ,6274 ,6314 | —9,4557 ,2960 ,4732 ,1358 8,9597 | —1,3014 ,3014 ,3015 ,3016 ,3017 | -8,7212 ,6940 ,6650 ,6595 ,6250 | 194 197 198 201 205 | +,021 +,006 +,025 +,021 +,002 | - ,06 - ,02 - ,01 - ,14 - ,23 |
| 791 792 793 794 795 | 4 4 4 4 | +60 15 53,62 + 7 25 9,72 -20 7 33,69 +18 19 16,98 -33 45 38,73 | 20,032 20,036 20,040 20,041 20,043 | +9,2695 ,6294 ,6159 ,6107 ,5575 | -9,9384 -,1097 +,5371 -,4942 +,7451 | —1,3019 ,3019 ,3019 ,3019 ,3020 | -8,5205 ,4680 ,2346 ,0765 +6,7648 | 210 215 225 229 240 | +,018 +,016 +,005 +,006 -,006 | - ,12 - ,01 - ,19 - ,11 + ,13 |
| 796 797 798 799 800 | 4 4 4 4 | +49 52 48,87 -20 45 21,41 - 4 48 36,73 +11 46 49,73 +15 21 19,08 | 20,043 20,038 20,037 20,035 20,027 | +9,4456 ,5999 ,6345 ,6355 ,6325 | $\begin{array}{r} -9,8834 \\ +9,5492 \\ +8,9255 \\ -9,3086 \\ -9,4219 \end{array}$ | ,3018 | | 242 14 17 23 30 | ,000 +,023 -,004 +,009 +,003 | - ,25 - ,11 - ,01 + ,04 - ,16 |
| 801 802 803 804 805 | 4 3 4 4 3 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 20,001 | +9,6355 ,6263 ,6375 ,6425 ,6425 | 8,9575 | 3016 3011 3008 | ,6368 ,8117 | 32 34 62 72 73 | +,007 +,011 +,014 +,014 +,013 | + ,05 - ,08 - ,07 - ,22 - ,31 |
| 806 807 808 809 810 | 2 | $\begin{array}{r rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$ | 19,975 19,971 19,971 | +9,6425 ,5366 ,6434 ,6365 ,6444 | $\begin{array}{c c} +9,7213 \\ -8,9639 \\ +8,4115 \end{array}$ | ,3004 ,30 0 4 | ,9301 | 77 82 86 89 94 | +,002 | ,00 ,25 |

| No. | Star's name and | Mag. | No. Obs. | A | Righ scens | ion | Annual Preces- | , , , , , , , , , , , , , , , , , , , | Logarit | hms of | |
|---------------------------------|---|--------------------------------|-----------------------|----------|----------------------------|---|--|--|--|---|---|
| | | | ODs. | Jan | ı. 1, 1 | 836. | sion. | a | b | c | d |
| 811 812 813 814 815 | Comæ Ber. Corvi Virginis Corvi | 8 6 7.8 8 8 | 4 4 2 4 2 | h. 12 | 21 4 23 5 23 5 | s. 32,78 43,52 20,41 22,31 12,44 | s. +3,007 3,122 3,041 3,037 3,130 | -8,8714 ,8573 ,8299 ,8329 ,8560 | 7,8291 ,8396 ,8429 ,8472 ,9025 | +0,4781 ,4944 ,4830 ,4824 ,4955 | + 8,4459 8,1163 |
| 816 817 818 819 820 | Can. Ven. 1 Comæ Ber. Corvi Virginis | 7 7 8 9 6 | 4 4 4 4 1 | | 26 28 28 | 42,45 52,72 1,14 46,98 55,13 | 2,965 3,013 3,114 3,022 3,090 | —8,9039 ,8459 ,8367 ,8357 ,8233 | -7,9595 ,9202 ,9290 ,9403 ,9590 | | 8,6545 8,3644 +8,2636 8,2525 +7,9183 |
| 821 822 823 824 825 | Virginis Can. Ven. Comæ Ber. Virginis | 7.8 7 7.8 8.9 7.8 | 3 3 | | 34 34 35 | 28,62 30,29 35,75 10,69 46,58 | 3,022 2,854 2,955 3,055 3,075 | -8,8319 ,9831 ,8780 ,8195 ,8188 | -7,9861 8,1662 ,0628 ,0118 ,0185 | ,4706 | 8,8455 8,5668 |
| 826 827 828 829 830 | Virginis Comæ Ber. 7 Can. Ven. | 8.9 8 pre. 8 10 10 | 2 4 | | 43 43 | 8,79 16,62 47,65 55,92 46,98 | 3,068 3,068 2,975 2,970 2,782 | -8,8178 ,8178 ,8430 ,8458 ,9870 | -8,0453 ,0468 ,1316 ,1358 ,2857 | +0,4869 ,4869 ,4735 ,4728 ,4444 | |
| 831 832 833 834 835 | Virginis ——————————————————————————————————— | 9.10 7.8 8.9 7.8 | 3 4 | | 47 47 48 | 57,15 17,31 17,52 27,22 55,90 | 3,100 3,008 3,002 3,178 3,253 | -8,8180 ,8247 ,8268 ,8448 ,8876 | -8,1284 ,1472 ,1493 ,1784 ,2345 | +0,4914 ,4783 ,4774 ,5021 ,5123 | +7,8871 -8,1561 -8,1961 +8,4050 +8,6182 |
| 836 837 838 839 840 | Virginis Centauri Comæ Ber. Virginis | 7 8 7 9 7.8 | 4 4 3 4 | | 53 54 55 55 55 | 8,63 1,38 3,56 47,53 47,79 | 3,055 3,276 2,926 3,034 2,999 | —8,8124 ,8902 ,8515 ,8132 ,8206 | -8,1872 ,2722 ,2414 ,2100 ,2176 | ,5153 ,4663 | -7,4313 +8,6313 -8,4608 -7,8361 -8,1420 |
| 841 842 843 844 845 | Virginis Ursæ Maj. Virginis | 8 9 8.9 9 | 4 4 4 4 3 | | 56 6 57 57 | 22,48 49,96 16,34 25,79 54,91 | 3,062 3,110 2,598 3,038 3,040 | 8,8106 8,8138 9,0495 8,8116 8,8113 | -8,2122 ,2191 ,4580 ,2217 ,2250 | ,4928 ,4146 | -8,9619 -7,7476 |
| 846 847 848 849 850 | Centauri Virginis Ursæ Maj. Virginis Comæ Ber. | 7.8 8.9 8 | 3 4 3 4 3 | 13 | 58 59 0 | 56,35 42,24 33,89 20,07 27,89 | 3,288 3,099 2,519 3,146 2,950 | 8,8874 8,8112 9,0834 8,8191 8,8307 | -8,3011 ,2306 ,5094 ,2512 ,2707 | +0,5169 ,4912 ,4012 ,4978 ,4698 | +8,6264 +7,7699 -9,0112 +8,1573 -8,3288 |
| 851 852 853 854 855 | Can. Ven. Virginis Ursæ Maj. Virginis pre. ———————————————————————————————————— | 8. 6.7 7 8 | 3 5 3 4 4 | | 4 4 5 8 6 2 | 36,78 44,07 50,04 21,62 24,38 | 2,879 3,152 2,569 3,139 3,139 | 8,8579 8,8169 9,0237 8,8126 8,8126 | -8,3141 ,2810 ,4953 ,2884 ,2884 | +0,4592 ,4986 ,4098 ,4968 ,4968 | -8,5187 +8,1562 -8,9246 +8,0733 +8,0733 |

| No. | No. Obs. | Declination Jan. 1, 1836. | Annual Preces- | | Logarit | hms of | 4 | zi No. | Annual | P. M. |
|---------------------------------|------------------|--|--|---|---|---|---|---------------------------------|---|---|
| | Obs. | | sion. | a' | Ъ′ | c' | d' | Piazzi | A. R. | Decn. |
| 811 812 813 814 815 | 2 3 2 3 3 | +26 48 32,74 -22 47 16,84 +11 10 47,04 +13 2 4,43 -22 36 13,20 | 19,961 19,952 19,942 19,937 19,920 | +9,6314 ,5599 ,6484 ,6484 ,5539 | -9,6520 + ,5866 - ,2841 - ,3503 + ,5826 | -1,3002 ,3000 ,2997 ,2997 ,2993 | +8,9559 8,9803 9,0107 ,0120 ,0437 | 96 105 113 114 117 | s. +,014 +,015 -,007 +,021 +,024 | +0,04 -,03 ,00 -,16 -,07 |
| 816 817 818 819 820 | 4 4 4 4 | +34 17 23,50 +19 16 50,58 —15 28 52,02 +15 9 21,27 — 7 7 39,86 | 19,915 19,904 19,892 19,883 19,859 | +9,6263 ,6522 ,5866 ,6551 ,6170 | -9,7477 - ,5154 + ,4236 - ,4133 + ,0910 | —1,2992 ,2989 ,2987 ,2985 ,2979 | +9,0527 ,0712 ,0890 ,1011 ,1317 | 124 132 134 138 147 | -,003 +,012 +,019 -,011 +,011 | - ,16 - ,13 - ,12 - ,10 - ,16 |
| 821 | 4 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 19,843 | +9,6580 | -9,3669 | —1,2976 | +9,1498 | 154 | -, | - ,09 |
| 822 | 4 | | 19,815 | ,6096 | -9,8573 | ,2970 | ,1781 | 164 | +,006 | + ,08 |
| 823 | 4 | | 19,814 | ,6561 | -9,6837 | ,2969 | ,1797 | 165 | +, 0 11 | - ,19 |
| 824 | 3 | | 19,805 | ,6454 | -8,7805 | ,2968 | ,1871 | 167 | +, 0 13 | - ,03 |
| 825 | 4 | | 19,796 | ,6325 | +8,5301 | ,2966 | ,1943 | 170 | +,008 | - ,03 |
| 826 | 4 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 19,764 | +9,6375 | -6,9347 | —1,2959 | +9,2214 | 174 | +,024 | - ,15 |
| 827 | 4 | | 19,762 | ,6375 | 7,5715 | ,2958 | ,2229 | 176 | +,014 | - ,16 |
| 828 | 6 | | 19,675 | ,6748 | 9,5267 | ,2939 | ,2806 | 201 | +,036 | - ,17 |
| 829 | 4 | | 19,674 | ,6758 | 9,5469 | ,2939 | ,2819 | 203 | +,027 | - ,17 |
| 830 | 4 | | 19,658 | ,6464 | 9,8602 | ,2935 | ,2902 | 209 | +,012 | - ,09 |
| 831 832 833 834 835 | 3 4 4 4 | - 6 43 3,66 +12 23 15,47 +13 35 33,81 -21 16 53,56 -32 30 6,00 | 19,637 19,615 19,615 19,594 19,566 | +9,6107 ,6702 ,6721 ,5159 ,3979 | +9,0602 ,3219 ,3609 + ,5503 + ,7201 | -1,2931 ,2926 ,2926 ,2921 ,2915 | +9,3015 ,3131 ,3131 ,3238 ,3365 | 216 221 222 225 235 | +,016 +,022 +,026 +,019 +,011 | - ,16 + ,04 - ,11 - ,03 - ,07 |
| 836 | 4 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 19,504 | +9,6464 | 8,6071 | —1,2901 | +9,3629 | 246 | +,023 | - ,06 |
| 837 | 4 | | 19,486 | ,3674 | +9,7288 | ,2897 | ,3698 | 247 | +,015 | + ,08 |
| 838 | 3 | | 19,464 | ,6937 | 9,5974 | ,2892 | ,3781 | 252 | +,011 | - ,02 |
| 839 | 4 | | 19,447 | ,66 0 9 | 9,0097 | ,2889 | ,3837 | 256 | +,004 | - ,01 |
| 840 | 4 | | 19,447 | ,6758 | 9,3083 | ,2889 | ,3837 | 257 | +,014 | + ,02 |
| 841 | 4 | + 1 10 57,11 | 19,435 | +9,6429 | -8,2892 | -1,2886 | +9,3882 | 258 | +,007 | - ,01 |
| 842 | 4 | - 7 16 2,87 | 19,425 | ,6021 | +9,0894 | ,2884 | ,3917 | 259 | +,027 | - ,13 |
| 843 | 4 | +54 50 2,47 | 19,417 | ,6561 | -9,8986 | ,2882 | ,3947 | 261 | +,005 | - ,23 |
| 844 | 5 | + 4 58 24,36 | 19,412 | ,6571 | -8,9220 | ,2881 | ,3961 | 260 | +,025 | - ,02 |
| 845 | 4 | + 4 49 35,18 | 19,402 | ,6571 | -8,9100 | ,2878 | ,3996 | 265 | +,024 | - ,26 |
| 846 | 3 | -33 14 14,89 | 19,402 | +9,3522 | +9,7249 | -1,2878 | +9,3996 | 263 | +,002 | - ,03 |
| 847 | 4 | - 5 12 11,55 | 19,386 | ,6117 | +8,9442 | ,2875 | ,4049 | 271 | +,005 | - ,13 |
| 848 | 4 | +57 54 14,08 | 19,367 | ,6522 | -9,9129 | ,2870 | ,4111 | 275 | +,023 | - ,09 |
| 849 | 3 | -12 33 45,96 | 19,348 | ,5647 | +9,3228 | ,2866 | ,4167 | 277 | +,002 | + ,14 |
| 850 | 4 | +18 21 39,37 | 19,324 | ,6955 | -9,4822 | ,2861 | ,4242 | 282 | +,025 | - ,07 |
| 851 | 4 | +27 15 41,00 | 19,272 | +9,7093 | -9,6437 | —1,2849 | +9,4390 | 10 | +,016 | - ,05 |
| 852 | 4 | -12 35 45,36 | 19,244 | ,5599 | + ,3216 | ,2843 | ,4465 | 19 | +,001 | - ,06 |
| 853 | 4 | +52 46 15,28 | 19,218 | ,6893 | - ,8826 | ,2837 | ,4533 | 24 | +,003 | + ,02 |
| 854 | 5 | -10 29 6,51 | 19,203 | ,5729 | + ,2520 | ,2834 | ,4572 | 25 | -,002 | - ,36 |
| 855 | 3 | -10 28 42,61 | 19,203 | ,5729 | + ,2420 | ,2834 | ,4572 | 26 | +,008 | - ,17 |

| No. | Star's name and | Mag. | No. Obs. | A | Right scension . 1, 1836. | Annual Preces- | | Logarit | hms of | |
|---------------------------------|---|--------------------------------|-----------------------|--------------------------|--|---|---|--|--|--|
| | | | | ormer and the Obstinuous | . 1, 1000. | Sion. | a | b | С | d |
| 856 857 858 859 860 | Virginis Ursæ Maj. Virginis | 8.9 7.8 8.9 8 | | ћ. 13 | m. s. 6 57,78 8 18,28 8 19,77 8 27,41 9 32,54 | s. $+3,117$ $3,110$ $3,154$ $2,382$ $2,964$ | 8,8084 8,8066 8,8143 9,1072 8,8178 | -8,2883 ,2956 ,3032 ,5961 ,3147 | +0,4937 ,4928 ,4989 ,3769 ,4719 | +7,9065 +7,8319 +8,1433 -9,0454 -8,2198 |
| 861 862 863 864 865 | | 8 8 8 8 7.8 | 4 4 3 4 4 | | 10 3,07 10 20,92 10 50,26 10 58,73 12 37,59 | 3,107 3,153 3,143 3,152 3,135 | 8,8051 ,8123 ,8097 ,8116 ,8072 | 8,3056 ,3145 ,3155 ,3182 ,3245 | +0,4923 ,4987 ,4973 ,4986 ,4962 | |
| 866 867 868 869 860 | Hydræ Virginis Comæ Ber. Hydræ Virginis | 6 8 8 8.9 7 | 3 3 3 4 | | 12 41,80 12 57,63 13 49,29 13 58,49 14 0,62 | 3,209 3,149 2,925 3,199 3,108 | -8,8250 ,8093 ,8242 ,8206 ,8026 | —8,3427 ,3284 ,3487 ,3464 ,3284 | +0,5064 ,4982 ,4661 ,5050 ,4925 | +8,0860 8,3283 |
| 871 872 873 974 875 | Ursæ Maj. Virginis Hydræ Virginis | seq. 6.7 7.8 8 7 7 | | | 17 19,76 18 22,50 19 18,68 19 27,68 19 52,03 | 3,108 3,248 3,275 | | ,3968 | ,5116 ,5152 | +7,7484 $+8,3941$ $+8,4535$ |
| 876 877 878 879 880 | Virginis Hydræ Ursæ Min. Virginis | 8 7 7 7 8 | 4 2 4 4 3 | | 19 52,11 20 26,57 21 9,01 21 57,26 22 16,63 | 2,931 3,233 1,515 | -8,8021 8,8148 8,8216 9,3349 8,8004 | ,3794 ,3904 ,9080 | ,4670 ,5096 | $ \begin{array}{r} -8,2696 \\ +8,3447 \\ -9,3160 \end{array} $ |
| 881 882 883 884 885 | Virginis Ursæ Maj. Hydræ Virginis | 8 9 8 8 8.9 | 3 3 4 4 | | 22 22 44,51 22 48,39 22 49,98 23 48,21 | 2,223 3,291 | 8,7950 9,1 0 59 8,8385 | -8,3707 ,3731 ,6840 ,4170 ,3846 | 4885 | -9,0466 + 8,4690 |
| 886 887 888 889 890 | 5 | 7 8 8 8 9 | 4 4 4 3 4 | | 25 38,25 26 54,73 27 17,18 28 14,84 29 6,17 | 3,104 3,146 3,209 | 8,7928 ,7968 ,8071 | -9,1244 8,3945 ,4003 ,4160 ,4056 | +9,6474 0,4919 ,4978 ,5064 ,4940 | +7,6489 +7,9895 +8,2376 |
| 891 892 893 894 895 | 200) | 9 8 8.9 7.8 7.8 | 3 4 | | 29 30,85 30 2,69 30 10,59 30 44,29 32 50,92 | 3,093 3,049 3,010 | ,7899 ,7895 ,7915 | -8,4056 ,4082 ,4089 ,4137 ,4499 | ,4842 ,4786 | $\begin{array}{r rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$ |
| 896 897 898 899 900 | Can. Ven. Virginis | 9 9 7 7 7.8 | , ~ | | 34 16,95 34 54,61 35 0,82 35 3,94 36 23,09 | 2,769 3,101 2,991 | 8,8437 8,7864 8,7896 | | ,4758 | -8,5295 +7,5679 |

| No. | No. Obs. | Declination Jan. 1, 1836. | Annual Preces- | | Logarith | ms of | , | zzi No. | Annual | Р. М. |
|---------------------------------|-------------------------|--|---|---|---|---|---|--|---|--|
| | | | sion. | a' | b' | c' | d' | Piazzi | A. R. | Decn. |
| 856 857 858 859 860 | 3 3 4 4 | - 7 11 17,12 - 6 3 58,53 - 12 17 24,79 +60 9 43,19 +14 37 44,15 | " 19,188 19,154 19,154 19,154 19,123 | +9,5955 ,6031 ,5587 ,6730 ,6946 | +9,0791 + ,0055 + ,3093 ,9185 ,3816 | —1,2830 ,2823 ,9823 ,2823 ,2815 | +9,4609 ,4692 ,4692 ,4692 ,4765 | 28 34 33 39 43 | s. +,016 +,011 +,018 -,035 ,000 | -0,06 -,10 -,09 -,11 -,14 |
| 861 862 863 864 865 | 4 4 4 4 | - 5 24 2,01 -11 46 56,62 -10 17 2,72 -11 37 8,05 - 9 8 17,32 | 19,087 | +9,6064 ,5599 ,5717 ,5599 ,5786 | +8,9542 9,2898 9,2311 9,233 9,1799 | —1,2812 ,2811 ,2807 ,2807 ,2796 | +9,4797 ,4813 ,4845 ,4853 ,4950 | 46 47 49 50 58 | +,012 +,007 +,011 +,006 -,006 | ,15 ,04 ,10 ,06 + ,06 |
| 866 867 868 869 870 | 4 4 2 4 | —18 37 33,81 —10 53 4,85 +18 37 40,09 —17 10 7,06 — 5 20 10,88 | 19,038 19,031 19,008 19,002 19,002 | +9,4928 ,5647 ,7093 ,5065 ,6042 | +9,4825 +9,2542 -9,4811 +9,4473 +8,9464 | —1,2796 ,2795 ,2789 ,2788 ,2788 | +9,4954 ,4965 ,5015 ,5026 ,5026 | 59 60 63 64 67 | ,000 +,012 +,026 -,004 +,005 | + ,04 - ,11 + ,04 - ,11 - ,32 |
| 871 872 873 874 875 | 3 4 3 • 4 3 | +55 46 49,21 - 5 4 35,93 -21 32 41,40 -24 21 35,38 + 0 1 47,22 | 18,849 18,844 | +9,7143 ,6053 ,4456 ,4065 ,6375 | -9,8921 +8,9228 +9,5387 +9,5890 -6,4367 | -1,2767 ,2759 ,2753 ,2752 ,2749 | | 79 81 86 87 89 | +,050 +,005 +,012 +,018 +,018 | - ,04 - ,12 - ,01 - ,02 - ,52 |
| 876 877 878 879 880 | 4 4 4 5 | - 8 53 28,87 +16 33 38,08 -19 27 44,01 +73 14 41,12 - 8 50 31,29 | 18,817 18,794 18,772 | +9,5752 ,7109 ,4669 ,6628 ,5740 | +9,1633 -9,4268 +9,4952 -9,9526 +9,1592 | ,2745 ,2740 ,2735 | ,5409 ,5447 | 88 92 97 109 103 | +,019 +,010 -,010 +,004 +,007 | - ,01 - ,02 - ,05 - ,02 + ,06 |
| 881 882 883 884 885 | 4 4 4 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 18,745 18,745 18,743 | +9,6284 ,6284 ,7168 ,3830 ,6893 | +8,3691 $-9,9117$ $-+9,6014$ | ,2729 ,2729 | ,5490 ,5490 ,5494 | 104 108 113 107 116 | +,013 -,008 +,009 | + ,03 - ,11 |
| 886 887 888 889 890 | 3 5 4 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 18,612 18,601 18,565 | +9,6415 ,6085 ,5694 ,5011 ,5944 | +9,8239 $+9,1603$ $+9,3973$ | ,2698 ,2695 ,2688 | ,5695 ,5711 ,5758 | 133 129 132 132 139 144 | +,016 +,004 | + ,06 + ,13 - ,16 |
| 891 892 893 894 895 | 5 3 4 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 18,511 18,594 18,486 | +9,6325 ,6180 ,6513 ,6758 ,7372 | +8,6695 -8,5223 -9,0109 | ,2674 ,2673 ,2668 | ,5837 ,5847 ,5871 | 147 148 149 153 | +,006 +,006 +,020 | $\begin{vmatrix} + & 12 \\ + & 02 \\ + & 01 \end{vmatrix}$ |
| 896 897 898 899 900 | 2 4 4 | -10 28 19,0 +29 1 59,20 - 3 26 37,8 + 8 7 45,59 +65 39 7,6 | 0 18,341 7 18,339 9 18,337 | ,6875 | $ \begin{array}{c c} $ | ,2635 ,2636 1 ,2633 | 6053 6059 6062 | 179 179 179 | $\begin{vmatrix} +,010 \\ +,000 \\ +,000 \end{vmatrix}$ | $\begin{vmatrix} -12 \\ -02 \\ 00 \end{vmatrix}$ |

| No. | Star's name and I | | Vo. | | Right scension | Annual Preces- | | Logarit | hms of | |
|---------------------------------|------------------------------------|-----------------------------|-----------------------|-----------------|--|--|---|--|---|---|
| | | | us. | Jan. | . 1, 1836. | sion. | а | b | c | d |
| 901 902 903 904 905 | Virginis Solittarii | 9 7 7 8 7.8 | 4 4 4 3 4 | h. 13 | m. s. 36 42,27 36 53,89 38 51,92 38 52,29 41 57,28 | s. +3,092 3,180 3,126 3,084 3,280 | -8,7843 ,7926 ,7843 ,7822 ,8068 | 8,4373 ,4469 ,4483 ,4462 ,4859 | +0,4902 ,5024 ,4950 ,4891 ,5159 | +7,4240 +8,0954 +7,7963 +7,2371 +8,3446 |
| 906 907 908 909 910 | k³ Centauri Bootis Virginis Bootis | 7 7.8 7.8 7 8 | 4 4 3 4 4 | ×100 | 42 23,90 42 36,28 42 39,26 43 50,69 43 58,98 | 3,432 2,834 2,833 2,936 2,913 | -8,8514 ,8117 ,8116 ,7883 ,7921 | 8,5328 ,4940 ,4944 ,4768 ,4812 | +0,5355 ,4524 ,4522 ,4678 ,4643 | —8,3862 —8,3×65 |
| 911 912 913 914 915 | Bootis Virginis Camelop. | 7.8 8.9 8 8 7 | 2 2 5 3 4 | | 45 15,18 46 13,49 46 40,25 46 59,56 47 23,09 | 2,925 2,980 2,978 3,025 2,258 | -8,7884 8,7799 8,7796 8,7756 9,7242 | 8,4836 8,4796 8,4814 8,4791 9,4269 | ,4749 ,4739 | -8,1577 -7,9411 -7,9467 -7,6246 -9,7214 |
| 916 917 918 919 920 | Virginis Bootis | 8 8 7 7 7.8 | 4 2 3 4 | • | 47 57,91 49 6,73 49 40,05 49 59,20 50 55,84 | 2,879 | ,7911 | -8,4871 ,4871 ,4960 ,5082 ,5079 | ,5 0 38 ,4592 | +7,6875 +8,0713 -8,2566 |
| 921 922 923 924 925 | Draconis | 9 9 8 8 9 | 4 1 3 3 4 | | 51 7,30 52 13,42 53 34,68 54 35,53 56 31,48 | 3,149 3,194 1,683 | 9,1439 | ,5005 ,51 0 2 ,8817 | ,4982 ,5043 ,2261 | +7,8770 +8,0666 -9,1017 |
| 926 927 928 929 930 | Virginis Solittarii Hydræ | 8 7.8 1.0 9 8 | 4 3 3 3 | | 57 0,53 58 18,78 58 57,29 59 13,35 59 36,69 | 3,250 3,296 3,391 | ,7790 ,7865 ,8079 | ,5337 ,5442 ,5667 | ,5119 ,5180 ,5303 | +8,2977 +8,4477 |
| 931 932 933 934 935 | | 7.8 8 8.9 8.9 8 | 4 3 2 1 1 | 14 | 1 11,06 1 25,43 2 35,11 2 43,23 4 2,69 | 2,937 3,185 3,006 | ,7677 ,7647 ,7599 | ,5362 ,5380 | ,4679 ,5031 ,4780 | $ \begin{array}{r} -8,0490 \\ +7,9920 \\ -7,7144 \end{array} $ |
| 936 937 938 939 940 | κ1 | 7.8 8.9 9 7.8 | 3 2 3 4 3 | | 4 40,28 6 2,07 7 35,09 9 38,56 10 14,63 | 2,962 2,146 2,914 | ,7594 ,9686 ,7599 | ,7630 ,5633 | ,4716 ,3316 ,4645 | $ \begin{array}{c} -7,9441 \\ -7,9358 \\ -8,8683 \\ -8,0807 \\ -7,6373 \end{array} $ |
| 941 942 943 944 945 | Virginis Hydræ | 7.8 8 9 8 7.8 | 4 3 2 4 3 | | 10 22,77 11 27,82 13 58,32 14 30,38 16 7,87 | 2,984 2,3,445 5,3,446 | ,7509 ,7952 ,7942 | ,5618 ,6166 ,6180 | 3 ,4748 3 ,5372 0 ,5373 | $\begin{vmatrix} +8,4532 \\ +8,4513 \end{vmatrix}$ |

| No. | No. Obs. | Declination Jan. 1, 1836. | Annual Preces- | | Logarith | ms of | | zi No. | Annual | P.M. |
|---------------------------------|-----------------------|---|---|--|---|---|---|---------------------------------|---|---|
| | | | sion. | a' | <i>b</i> ′ | c' | d' | Piazzi | A. R. | Decn. |
| 901 902 903 904 905 | 4 4 4 4 4 | - 2 29 16,29 -11 33 32,96 - 5 52 56,36 - 1 37 12,79 -20 10 7,06 | -18,279 18,277 18,200 18,200 18,086 | +9,6180 ,5340 ,5899 ,6253 ,4133 | +8,5997 9,2625 8,9700 8,4130 9,4932 | —1,2620 ,2619 ,2601 ,2601 ,2573 | +9,6130 ,6141 ,6221 ,6221 ,6345 | 182 183 192 193 212 | s. ,000 +,013 +,007 +,011 +,015 | + ,06 + ,02 - ,06 + ,01 - ,14 |
| 906 907 908 909 910 | 5 3 5 4 4 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 18,067 18,061 18,058 18,054 18,008 | +9,1367 ,7520 ,7520 ,7168 ,7259 | +9,6816 -9,5293 -9,5295 -9,2962 -9,3612 | 1,2569 ,2567 ,2567 ,2556 ,2554 | +9,6364 ,6371 ,6374 ,6421 ,6426 | 217 219 220 223 224 | -,009 +,011 +,004 +,003 +,014 | - ,02 + ,07 + ,08 - ,05 - ,26 |
| 911 912 913 914 915 | 3 5 4 5 2 | +13 33 17,40 + 8 21 13,48 + 8 29 4,85 + 4 4 54,65 +83 34 27,99 | 17,941 17,922 17,904 17,890 17,895 | +9,7210 ,6937 ,6946 ,6665 ,6955 | 9,3215 9,1126 9,1181 8,7996 9,9480 | —1,2543 ,2534 ,2529 ,2526 ,2527 | +9,6475 ,6510 ,6528 ,6541 ,6535 | 232 236 239 241 263 | ,017 +,009 +,005 +,008 ,069 | - ,03 - ,07 - ,01 - ,08 - ,08 |
| 916 917 918 919 920 | 3 4 4 4 3 | - 9 13 34,56 - 4 40 42,02 -11 14 58,99 +17 0 29,83 +15 21 43,44 | 17,853 17,808 17,787 17,772 17,735 | +9,5502 ,5966 ,5263 ,7404 ,7332 | +9,1559 +8,8621 +9,2390 -9,4133 -9,3692 | —1,2517 ,2506 ,2501 ,2498 ,2488 | +9,6575 ,6617 ,6638 ,6649 ,6683 | 245 252 256 259 265 | -,014 +,010 +,030 +,010 +,013 | - ,04 - ,07 - ,19 + ,08 - ,09 |
| 921 922 923 924 925 | 2 4 4 3 4 | +16 21 4,23 - 7 16 23,52 -11 14 29,00 +65 10 56,45 - 8 15 28,67 | 17,727 17,681 17,625 17,587 17,502 | -+9,7380 ,5694 ,5224 ,7910 ,5563 | 9,3957 +9,0495 +9,2343 9,9011 +9,0987 | —1,2486 ,2475 ,2461 ,2452 ,2431 | +9,6690 ,6730 ,6779 ,6810 ,6880 | 268 271 278 285 291 | +,017 +,020 +,039 +,019 +,011 | + ,07 ,06 ,05 + ,14 ,00 |
| 926 927 928 929 930 | 4 4 4 3 3 | -25 47 25,64 -15 24 20,43 -18 56 14,16 -25 52 7,51 -11 46 56,40 | 17,479 17,424 17,396 17,384 17,367 | +9,2504 ,4579 ,3997 ,2405 ,5092 | +9,5793 9,3638 9,4496 9,5779 9,2478 | -1,2425 ,2412 ,2404 ,2401 ,2397 | +9,6896 ,6939 ,6961 ,6970 ,6983 | 294 300 304 305 307 | +,015 +,001 +,029 +,001 +,044 | - ,10 - ,18 - ,06 - ,12 - ,09 |
| 931 932 933 934 935 | 4 3 2 2 1 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 17,299 17,287 17,237 17,228 17,171 | +9,6665 ,7185 ,5340 ,6794 ,6170 | | ,2377 ,2365 ,2362 | ,7078 ,7084 | 313 314 5 7 13 | +,007 +,005 | — ,06 — ,10 |
| 936 937 938 939 940 | 2 4 2 4 4 | + 8 46 58,14 + 8 39 4,17 +52 33 29,06 +12 5 54,54 + 4 26 11,02 | 17,080 17,013 16,914 | +9,7059 ,7059 ,8344 ,7292 ,6758 | 9,1069 9,8285 9,2471 | ,2308 ,2282 | ,7187 ,7232 ,7296 | 18 21 30 35 35 | $\begin{vmatrix} -,005 \\ +,027 \\ +,012 \end{vmatrix}$ | $\begin{vmatrix} - & ,10 \\ - & ,03 \\ - & ,02 \end{vmatrix}$ |
| 941 942 943 944 945 | 3 4 3 3 4 | $\begin{array}{r} -17 & 45 & 45,17 \\ + & 6 & 39 & 21,76 \\ -27 & 3 & 32,73 \\ -26 & 59 & 46,02 \\ -1 & 35 & 43,85 \end{array}$ | 16,829 16,706 16,678 | ,1335 | -8,9867 $+9,5790$ $+9,5772$ | ,2260 ,2229 ,2221 | ,7349 ,7423 ,7440 | 63 | $\begin{vmatrix} +,006 \\ 1 +,002 \\ 3 -,014 \end{vmatrix}$ | $\begin{vmatrix} 00 \\ 02 \\ -0.25 \\ 0.08 \end{vmatrix}$ |

| No. | Star's name and | Mag. | No. | A s | Right cension | Annual Preces- | | Logarit | hms of | |
|---------------------------------|----------------------------------|---------------------------|--|------------|--|-------------------------------|--|--|---|--|
| | | | Obs. | Jan | . 1, 1836. | sion. | a | b | c | d |
| 946 947 948 949 950 | Bootis Hydræ Virginis Bootis | 8 8 1.0 7 7.8 | 4 | h. 14 | m. s. 16 27,70 17 11,47 18 12,77 20 18,77 22 5,33 | 3,027 2,982 | 8,9753 ,7874 ,7394 ,7394 ,7397 | 8,8067 ,6221 ,5781 ,5865 ,5940 | +0,3066 ,5363 ,4874 ,4745 ,4689 | 8,8847 +8,4311 +6,5253 7,7877 7,9411 |
| 951 952 953 954 955 | Virginis Centauri Virginis | 8 8 8 8 | 3 3 2 4 2 | | 22 12,10 24 28,92 24 42,09 25 2,10 27 22,39 | 3,878 3,153 3,153 | 8,7344 ,8872 ,7332 ,7327 ,7281 | 8,5°93 ,7511 ,5979 ,5987 ,6033 | ,4987 | $+8,7423 \\ +7,7678 \\ +7,7626$ |
| 956 957 958 959 960 | Virginis Solittarii Virginis | 9 8 8 9.10 | 3 2 1 3 2 | | 27 32,81 27 38,78 28 39,02 30 23,43 30 24,97 | 3,111 3,403 3,140 | 8,7819 ,7272 ,7593 ,7242 ,7304 | 8,6080 ,6035 ,6399 ,6115 ,6177 | | +7,9222 +7,4579 +8,3419 +7,6717 +8,0071 |
| 961 962 963 964 965 | Virginis Libræ Virginis | 8 7 8 8 8 | 4 2 2 3 4 | | 32 21,27 33 12,67 33 28,51 33 42,81 35 45,13 | 3,237 3,236 3,445 | | | ,5100 ,5372 | +8,0272 +8,0251 +8,3747 |
| 966 967 968 969 970 | Bootis Libræ Lupi Libræ | 7 8 8 8 | 3 3 2 4 3 | | 38 22,68 39 52,36 42 51,11 43 33,21 45 22,61 | 3,258 3,634 7 3,315 | ,7795 ,7187 | ,6424 ,7150 ,6568 | ,5129 ,5604 ,5205 | +8,0520 $+8,5152$ $+8,1519$ |
| 971 972 973 974 975 | Virginis Bootis | 9 8 7 8 | 2 4 4 | | 45 53,13 48 55,8 50 20,6 50 32,9 53 54,3 | 5 3,338 5 3,137 7 2,906 | ,7117 ,6918 ,6971 | ,6705 ,6559 ,6619 | ,5235 ,4965 ,4633 | +7,5701 $-7,9432$ |
| 976 977 978 979 980 | Serpentis | 8 8 8 8 8 | $\begin{array}{c c} 2\\ 2\\ 2\\ 3 \end{array}$ | | 54 24,86 54 53,66 55 39,9 55 58,9 56 42,5 | 5 3,180 4 3,306 5 3,072 | ,6857 ,6949 ,6805 | ,6670 ,6792 ,6661 | ,5024 ,5193 ,4874 | |
| 981 982 983 984 985 | Libræ Ursæ Min. | 7 7. 8 8 8. | 8 4 4 3 | | 58 13,2 58 22,1 59 11,4 59 14,3 59 37,4 | 1 3,205 5 3,258 9 0,295 | 8,6806 8,6832 9,1673 | 8,6753 8,6809 9,1645 | 0,5058 0,5129 9,4698 | $ \begin{array}{r} -7,4792 \\ +7,8400 \\ +7,9797 \\ -9,1436 \\ -6,6690 \end{array} $ |
| 986 987 988 989 990 | Serpentis Scorpii | 9 7. 7 8 | 8 4 4 .8 2 | | 1 38,0 2 14,0 3 15,5 3 54,0 4 5,0 | 1 3,279 0 3,011 4 3,510 | ,6790 ,6675 ,7071 | ,6883 ,6806 ,7227 | ,5157 ,4787 ,545 | +8,0126 -7,4448 +8,3281 |

| No. | No. | Declination Jan. 1, 1836. | Annual Preces- | | Logarit | hms of | | zi No. | Annual | Р. М. |
|---------------------------------|-----------------------|---|---|---|---|---|---|----------------------------|---|---|
| | O DIS. | | sion. | a' | Ъ' | c' | d' | Piazzi | A. R. | Decn. |
| 946 947 948 949 950 | 4 4 4 4 4 | +54 16 11,78 -26 6 13,34 - 0 20 35,75 + 6 25 12,65 + 9 5 16,02 | -16,587 16,544 16,498 16,395 16,304 | +9,8513 ,1492 ,6345 ,6964 ,7168 | -9,8272 +9,5604 +7,7014 -8,9610 -9,1086 | -1,2198 ,2168 ,2174 ,2147 ,2123 | +9,7492 ,7515 ,7542 ,7598 ,7647 | 79 78 81 93 99 | s. +,018 +,009 +,033 +,006 +,016 | -0,10 + ,90 - ,16 + ,02 - ,04 |
| 951 | 4 | - 2 22 27,68 | 16,297 | +9,6117 | +8,5291 | -1,2121 | +9,7650 | 100 | +,012 | + ,08 |
| 952 | 4 | -45 44 10,94 | 16,181 | ,0792 | +9,7621 | ,2090 | ,7709 | 106 | +,006 | + ,02 |
| 953 | 4 | - 6 12 32,27 | 16,171 | +,5670 | +8,9413 | ,2087 | ,7709 | 108 | +,012 | - ,12 |
| 954 | 4 | - 6 8 39,31 | 16,153 | ,5659 | +8,9362 | ,2083 | ,7723 | 111 | +,010 | - ,13 |
| 955 | 4 | + 4 11 19,50 | 16,032 | ,6776 | -8,7644 | ,2050 | ,7783 | 120 | +,020 | - ,13 |
| 956 | 4 | - 8 53 26,38 | 16,021 | +9,5276 | +9,0930 | -1,2047 | +9,7788 | 121 | +,004 | - ,04 |
| 957 | 4 | - 3 3 35,46 | 16,017 | ,6031 | +8,6333 | ,2046 | ,7790 | 122 | +, 0 06 | + ,07 |
| 958 | 4 | -22 26 50,27 | 15,962 | ,2279 | +9,4836 | ,2031 | ,7816 | 129 | -, 0 50 | + ,02 |
| 959 | 5 | - 5 4 25,72 | 15,869 | ,5775 | +8,8460 | ,2006 | ,7859 | 139 | +,014 | - ,16 |
| 960 | 4 | -10 52 50,33 | 15,869 | ,4928 | +9,1753 | ,2006 | ,7859 | 138 | +, 0 29 | - ,08 |
| 961 | 4 | - 5 45 2,02 | 15,766 | +9,5682 | +8,8978 | -1,1977 | +9,7906 | 144 | +,009 | - ,08 |
| 962 | 4 | -11 31 43,93 | 15,722 | ,4786 | +9,1954 | ,1965 | ,7925 | 146 | +,029 | - ,03 |
| 963 | 4 | -11 26 53,08 | 15,704 | ,4800 | +9,1925 | ,1960 | ,7933 | 151 | -,005 | - ,04 |
| 964 | 3 | -24 24 18,40 | 15,690 | ,1399 | +9,5100 | ,1956 | ,7940 | 153 | +,003 | - ,07 |
| 965 | 4 | - 5 41 21,51 | 15,580 | ,5670 | +8,8889 | ,1926 | ,7987 | 162 | +,020 | - ,02 |
| 966 | 4 | $\begin{array}{c} +15 \ 49 \ 29,94 \\ -12 \ 25 \ 47,93 \\ -32 \ 56 \ 50,24 \\ -15 \ 43 \ 10,02 \\ + \ 0 \ 14 \ 54,15 \end{array}$ | 15,437 | +9,7716 | -9,3220 | -1,1885 | +9,8047 | 178 | +,018 | ,03 |
| 967 | 3 | | 15,350 | 9,4564 | +9,2178 | ,1861 | ,8082 | 181 | +,002 | ,02 |
| 968 | 4 | | 15,180 | 7,9031 | +9,6150 | ,1813 | ,8149 | 192 | ,000 | ,02 |
| 969 | 3 | | 15,142 | 9,3801 | +9,3114 | ,1802 | ,8164 | 195 | +,005 | ,09 |
| 970 | 3 | | 15,034 | 9,6395 | -7,4850 | ,1771 | ,8204 | 205 | +,001 | ,18 |
| 971 | 4 | -24 56 38,94 | 15,007 | | +9,4995 | -1,1763 | +9,8214 | 208 | +,019 | - ,17 |
| 972 | 4 | -16 42 1,05 | 14,828 | | +9,3276 | ,1711 | ,8279 | 223 | -,004 | - ,07 |
| 973 | 4 | - 4 19 24,08 | 14,746 | | +8,7450 | ,1687 | ,8308 | 229 | -,003 | - ,16 |
| 974 | 5 | +10 9 32,83 | 14,737 | | -9,1124 | ,1683 | ,8312 | 230 | +,003 | - ,18 |
| 975 | 4 | -16 58 50,76 | 14,531 | | +9,3258 | ,1623 | ,8381 | 246 | +,013 | - ,09 |
| 976 | 4 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 14,503 | +9,3747 | +9,2985 | -1,1614 | +9,8390 | 252 | +,016 | - ,03 |
| 977 | 4 | | 14,474 | ,5403 | +8,9404 | ,1606 | ,8399 | 254 | +,019 | - ,02 |
| 978 | 4 | | 14,426 | ,3944 | +9,2522 | ,1591 | ,8415 | 256 | +,007 | - ,07 |
| 979 | 4 | | 14,406 | ,6345 | +7,5244 | ,1585 | ,8422 | 257 | ,000 | - ,27 |
| 980 | 4 | | 14,365 | ,8457 | —9,5074 | ,1573 | ,8435 | 264 | +,006 | + ,02 |
| 981 | 4 | + 3 38 50,26 $- 8 17 23,00$ $- 11 24 46,25$ $+ 71 15 30,31$ $+ 0 34 41,14$ | 14,272 | +9,6785 | -8,6544 | —1,1545 | +9,8464 | 271 | +,016 | - ,10 |
| 982 | 4 | | 14,259 | ,5172 | +9,0115 | ,1541 | ,8468 | 272 | +,004 | + ,01 |
| 983 | 3 | | 14,210 | ,4563 | +9,1471 | ,1526 | ,8483 | 276 | -,001 | - ,05 |
| 984 | 3 | | 14,217 | ,9063 | -9,8271 | ,1528 | ,8481 | 285 | ,000 | + ,17 |
| 985 | 4 | | 14,185 | ,6444 | -7,8451 | ,1518 | ,8491 | 278 | +,007 | - ,07 |
| 986 | 4 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 14,057 | +9,1553 | +9,4093 | -1,1479 | +9,8530 | 289 | ,000 | - ,05 |
| 987 | 3 | | 14,019 | 9,4314 | +9,1784 | ,1467 | ,8541 | 1 | +,013 | + ,01 |
| 988 | 4 | | 14,021 | 9,6785 | -8,6201 | ,1448 | ,8559 | 4 | +,009 | - ,01 |
| 989 | 4 | | 13,912 | 8,9685 | +9,4625 | ,1435 | ,8572 | 5 | -,019 | - ,19 |
| 990 | 4 | | 13,910 | 9,9248 | -9,7710 | ,1433 | ,8573 | 12 | +,009 | - ,01 |

| No. | Star's name and | Mag. | No. Obs. | Right Ascension | Annual Preces- | | Logari | thms of | |
|---|--|--------------------------------|-----------------------|---|--|---|---|---|---|
| | | | | Jan. 1, 1836. | sion. | а | b | С | ig d |
| 991 992 993 994 995 | Scorpii 2 Libræ Serpentis Lupi | 8 9.10 8 8 var. | 3 4 4 4 4 | h. m. s. 15 4 17,96 5 14,86 5 56,57 9 15,08 10 27,46 | s. +3,492 3,380 3,114 3,074 4,034 | —8,7032 ,6843 ,6620 ,6547 ,7977 | 8,7203 ,7048 ,6852 ,6906 ,8384 | +0,5431 ,5289 ,4933 ,4877 ,6057 | +8,3088 +8,1704 +7,3456 +6,4986 +8,6422 |
| 996 997 998 999 1000 | Libræ Cor. Bor. Libræ | 8.9 8 8.9 8 | 4 4 2 3 | 11 36,19 11 49,04 12 26,93 12 47,20 12 51,81 | 3,251 3,330 3,173 2,489 3,177 | —8,6571 ,6641 ,6506 ,7106 ,6499 | —8,7019 ,7096 ,6984 ,7597 ,6993 | +0,5120 ,5224 ,5015 ,3960 ,5020 | +7,9157 +8,0714 +7,6722 -8,4115 +7,6856 |
| 1001 1002 1003 1004 1005 | Cor. Bor. Libræ Serpentis Libræ | 8.9 8 8 9.10 | 2 3 3 4 3 | 13 32,82 13 42,86 15 57,03 16 3,34 16 11,26 | 2,484 3,246 3,068 2,899 3,224 | —8,7097 ,6522 ,6406 ,6464 ,6451 | 8,7617 ,7049 ,7019 ,7080 ,7075 | ,5113 | 8,4128 +7,8947 5,4053 7,8632 +7,8298 |
| 1006 1007 1008 1009 1010 | Serpentis Draconis Libræ Bootis Libræ | 8 8 8 8.9 | 3 2 4 2 3 | 16 21,65 16 31,98 16 37,22 18 18,89 18 28,34 | 2,896 1,651 3,453 2,275 3,162 | -8,6459 ,8756 ,6683 ,7384 ,6368 | -8,7088 ,9387 ,7324 ,8087 ,7079 | +0,4618 ,2193 ,5382 ,3570 ,4999 | -7,8710 -8,7863 +8,2190 -8,5269 +7,5982 |
| 1011 1012 1013 1014 1015 | Libræ Cor. Bor. Serpentis | 7.8 8 var. 6.7 8.9 | 3 4 2 | 18 49,41 19 16,13 19 42,40 19 52,30 21 19,36 | 3,452 3,264 3,165 2,352 3,027 | 8,6631 ,6410 ,6342 ,7181 ,6290 | -8,7354 ,7152 ,7099 ,7943 ,7108 | +0,5381 ,5137 ,5004 ,3714 ,4810 | +8,2104 +7,9171 +7,6119 -8,4756 -7,2356 |
| 1016 1017 1018 1019 1020 | Libræ Scorpii Libræ | 8.9 8 8 8 | 5 1 3 4 3 | 21 41,65 21 53,25 22 12,79 23 10,90 24 15,14 | 3,409 3,350 3,609 3,422 3,243 | 8,6501 ,6429 ,6789 ,6481 ,6279 | -8,7337 ,7270 ,7646 ,7374 ,7211 | +0,5326 ,5250 ,5574 ,5343 ,5109 | +8,1466 +8,0643 +8,3450 +8,1574 +7,8485 |
| 1021 1022 1023 1024 1025 | Serpentis Libræ Lupi Serpentis Libræ | 7.8 8.9 7.8 7.8 | | 25 5,31 29 5,16 29 30 3,07 30 41,70 | 2,998 3,323 4,094 2,742 3,324 | 8,6208 ,6224 ,7524 ,6274 ,6184 | -8,7173 ,7346 ,8669 ,7432 ,7369 | +0,4768 ,5215 ,6121 ,4381 ,5215 | -7,4497 +7,9927 +8,5948 -8,0950 +7,9877 |
| 1026 1027 1028 1 0 29 1030 | Libræ Scorpii Serpentis Draconis 29 Serpentis | 8 7.8 8 8 7.8 | 5 4 | 32 9,02 33 23,67 35 31,09 36 49,92 38 51,45 | 3,324 3,566 3,013 0,597 2,754 | -8,6146 ,6417 ,5944 ,9870 ,6024 | -8,7388 8,7709 8,7321 9,1292 8,7532 | +0,5215 0,5522 0,4790 9,7760 0,4399 | +7,9812 +8,2660 -7,3059 -8,9488 -8,0436 |
| 1031 1032 1033 1034 1035 | 31 ^v Serpentis Lupi Serpentis Lupi | 6.7 var. 8 8 | 4 2 5 3 | 39 40,54 46 46 54,69 49 50,06 53 31,63 | 2,782 3,807 2,890 2,710 3,865 | 8,5974 ,6425 ,5682 ,5749 ,6292 | -8,7513 ,8247 ,7518 ,7707 ,8411 | + 0,4444 ,5806 ,4609 ,4330 ,5871 | -7,9998 +8,3842 -7,7657 -8,0555 +8,3878 |

| No. | No. Obs. | Declination | Annual Preces- | | Logaritl | nms of | aggine and the second s | zi No. | Annual | P.M. |
|--------------------------------------|-----------------------|--|---|--|---|---|--|---------------------------------|---|---|
| | Obs. | Jan. 1, 1836. | sion. | a' | b' | c′ | d' | Piazzi | A. R. | Decn. |
| 991 992 993 994 995 | 4 1 4 4 4 | -23 45 24,70 -17 49 10,56 - 2 44 49,85 - 0 22 45,78 -44 20 14,88 | -13,890 13,834 13,788 13,575 13,493 | +9,0253 +9,2810 +9,6010 +9,6325 -9,3139 | +9,4463 +9,3251 +8,5212 +7,6747 +9,7727 | -1,1427 ,1410 ,1395 ,1327 ,1301 | +9,8579 ,8595 ,8608 ,8667 ,8689 | 8 15 17 28 30 | s. +,007 +,005 +,009 +,010 -,012 | +0,01 -,10 -,04 -,13 -,06 |
| 996 997 998 999 1000 | 4 4 5 4 4 | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | 13,424 13,422 13,373 13,350 13,347 | +9,4654 9,3617 9,5478 9,8 7 51 9,5453 | +9,0845 +9,2328 +8,8459 -9,5245 +8,8591 | -1,1279 ,1275 ,1262 ,1255 ,1254 | +9,8707 ,8711 ,8721 ,8727 ,8728 | 38 40 43 46 45 | +,016 +,001 +,009 -,006 +,017 | - ,17 - ,17 - ,05 - ,15 - ,06 |
| 1001 1002 1003 1004 1005 | 4 3 3 4 4 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 13,303 13,290 13,141 13,136 13,123 | +9,8768 9,4713 9,6375 9,7419 9,4955 | -9,5251 +9,0641 -6,5814 -9,0333 +9,0007 | —1,1239 ,1235 ,1186 ,1185 ,1180 | +9,8739 ,8742 ,8780 ,8781 ,8784 | 51 48 60 62 61 | +,003 +,002 +,020 +,006 +,011 | - ,13 - ,32 - ,20 - ,11 - ,08 |
| 1006 1007 1008 1009 1010 | 4 3 3 2 3 | + 9 40 28,71 +54 31 2,10 -20 47 52,83 +37 55 32,23 - 5 14 22,18 | 13,114 13,110 13,092 12,986 12,973 | +9,7443 9,9385 9,1367 9,9085 9,5575 | —9,0409 —9,7263 +9,3657 —9,6000 +8,7725 | -1,1177 ,1176 ,1170 ,1135 ,1130 | +9,8786 ,8788 ,8792 ,8818 ,8821 | 66 68 65 74 70 | +,011 +,028 +,012 -,008 +,005 | - ,16 - ,11 - ,04 + ,01 - ,18 |
| 1011 1012 1013 1014 1015 | 4 4 4 4 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 12,950 12,919 12,922 12,885 12,785 | +9,1367 9,4487 9,5563 9,8998 9,6674 | +9,3577 +9,0853 +8,7860 -9,5656 -8,4113 | -1,1123 ,1112 ,1103 ,1100 ,1067 | +9,8826 ,8834 ,8840 ,8842 ,8866 | 71 77 79 81 85 | -,027 +,009 +,008 +,014 +,033 | -,01 -,08 -,11 -,14 -,10 |
| 1016 1017 1018 1019 1020 | 4 4 4 4 | —18 16 2,13 —15 16 45,43 —27 36 1,52 —18 50 20,13 — 9 33 1,32 | 12,754 12,744 12,717 12,654 12,587 | +9,2304 9,3324 8,4314 9,2041 9,4742 | +9,3002 +9,2247 +9,4685 +9,3096 +9,0185 | -1,1056 ,1053 ,1044 ,1022 ,0999 | +9,8873 ,8875 ,8881 ,8896 ,8911 | 87 88 90 94 101 | ,017 +,007 +,017 +-,017 +,015 | + ,01 - ,13 - ,06 - ,01 - ,14 |
| 1021 1022 1023 1024 1025 | 4 1 5 5 | + 3 52 56,77 -13 33 17,40 -44 4 +17 4 33,86 -13 30 49,22 | 12,527 12,253 12,211 12,188 12,141 | +9,6866 +9,3729 -9,3802 +9,8116 +9,3711 | -8,6248 +9,1565 +9,6272 -9,2515 +9,1515 | -1,0979 ,0882 ,0867 ,0859 ,0843 | +9,8924 ,8984 ,8993 ,8997 ,9007 | 107 127 129 137 139 | +,013 +,010 +,005 ,000 | -,10 +,05 ,00 +,02 |
| 1026 1027 1028 1029 1030 | 4 3 4 4 4 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 12,039 11,950 11,800 11,719 11,568 | +9,3729 8,7404 9,6767 9,9624 9,8082 | +9,1452 +9,3997 -8,4814 -9,7287 -9,2025 | -1,0806 ,0774 ,0719 ,0689 ,0632 | +9,9028 ,9046 ,9076 ,9091 ,9120 | 144 149 159 168 171 | +,015 +,009 +,005 +,022 +,011 | + ,02 ,11 ,12 + ,03 ,05 |
| 1031 1032 1033 1034 1035 | 3 3 4 4 4 | +14 37 30,26 -33 28 34,12 + 9 4 18,86 +17 39 43,95 -34 59 14,18 | 11,511 11,009 10,985 10,769 10,487 | +9,7973 -8,9956 +9,7490 +9,8254 -9,1271 | -9,1616 +9,4815 -8,9363 -9,2107 +9,4773 | -1,0611 ,0417 ,0408 ,0322 ,0207 | +9,9131 ,9220 ,9224 ,9260 ,9305 | 173 205 209 223 236 | +,005 +,023 +,001 ,000 | - ,11 + ,01 + ,02 - ,22 |

| No. | Star's name and M | lag. | No. Obs. | A | Righ scens | ion | Annual Preces- sion. | | Logarit | hms of | |
|--------------------------------------|--|-------------------------------|-----------------------|----------|----------------------|--|--|---|---|---|---|
| | | | | | . 1, 1 | 050. | Sion. | a | <i>b</i> | | d |
| 1036 1037 1038 1039 1040 | Libræ Scorpii Draconis | 8 8.9 8 8 | 4 3 3 4 4 | h. 15 | 54 9 55 2 55 3 | s. 51,21 26,06 20,47 66,74 25,10 | s. +3,229 3,229 3,494 3,442 1,433 | —8,5463 ,5444 ,5655 ,5584 ,7755 | 8,7590 ,7596 ,7847 ,7788 ,9987 | +0,5091 ,5091 ,5433 ,5368 ,1562 | +7,6925 +7,6898 +8,1088 +8,0507 -8,6888 |
| 1041 1042 1043 1044 1045 | Scorpii 1 Lupi Herculis Scorpii | 8 7.8 8 8.9 | 4 5 1 4 3 | yara | 57 3 58 3 59 3 | 55,02 66,67 18,72 33,67 5 0 ,14 | 3,660 3,989 2,949 3,457 3,468 | -8,5834 ,6373 ,5301 ,5467 ,5471 | -8,8095 ,8665 ,7620 ,7844 ,7859 | -+ 0,5635 ,6009 ,4697 ,5387 ,5401 | +8,2446 +8,4330 -7,5384 +8,0497 +8,0604 |
| 1046 1047 1048 1049 1050 | Serpentis ** Herculis Scorpii Serpentis | 8 9 8 8.9 | 4 3 4 3 4 | 16 | 0 4 2 4 3 | 36,07 40,96 44,52 12,55 49,22 | 2,949 2,702 3,681 3,472 2,680 | -8,5227 ,5408 ,5658 ,5358 ,5321 | —8,7645 ,7828 ,8176 ,7897 ,7884 | +0,4697 ,4317 ,5660 ,5406 ,4281 | -7,5298 -8,0185 +8,2334 +8,0503 -8,0302 |
| 1051 1052 1053 1054 1055 | Ophiuchi Herculis Scorpii Regulæ | 8 8 7 8 7 | 2 4 4 4 1 | | 5 6 9 | 10,62 16,21 10,21 10,29 28,50 | 3,541 2,935 2,938 3,766 4,029 | -8,5374 ,5072 ,5040 ,5552 ,5990 | —8,7999 ,7700 ,7708 ,8360 ,8813 | ,4680 | -7,5577 -7,5455 |
| 1056 1057 1058 1059 1060 | Herculis Scorpii seq. ———————————————————————————————————— | 8 8 8.9 8.9 | 4 2 1 1 3 | | 10 3 10 3 10 4 | 41,16 30,74 55,11 55,69 19,82 | 2,654 3,492 3,494 3,494 2,704 | -8,5138 ,5117 ,5104 ,5104 ,5024 | —8,7967 ,7987 ,7992 ,7992 ,7927 | +0,4239 ,5431 ,5433 ,5433 ,4320 | -8,0319 +8,0388 +8,0385 +8,0385 -7,9687 |
| 1061 1062 1063 1064 1065 | Herculis Regulæ Serpentis | 7.8 8.9 7 8 | | | 12 | 22,08 44,97 56,22 1,83 7,32 | 2,944 2,807 4,029 3,000 2,996 | -8,4850 ,4876 ,5848 ,4734 ,4730 | | ,4482 ,6052 ,4771 | -7,4994 -7,8172 +8,3820 -7,2291 -7,2545 |
| 1066 1067 1068 1069 1070 | Herculis Scorpii ——— Ophiuchi | 8 8.9 8 9 8 | 3 3 4 4 | | $\frac{15}{15}$ 3 | 19,12 24,28 65,04 18,41 | 2,773 3,735 3,580 3,659 3,274 | | —8,7889 ,8355 ,8136 ,8246 ,7846 | +0,4429 ,5721 ,5539 ,5634 ,5151 | -7,8630 +8,2111 +8,0961 +8,1578 +7,6959 |
| 1071 1072 1073 1074 1075 | Serpentis Scorpii Regulæ Ophiuchi Herculis | 7.8 8.9 8.9 9 8.9 | 4 4 4 4 | | 20 23 24 ; | 19,15 2,53 4,91 35,42 19,34 | 3,000 3,627 3,928 3,016 2,569 | -8,4524 ,4908 ,5237 ,4302 ,4488 | 8,7815 ,8234 ,8718 ,7857 ,8210 | ,5595 ,5942 | -7,2037 +8,1135 +8,2845 -7,0581 -8,0236 |
| 1076 1077 1078 1079 1080 | Ophiuchi Herculis Ophiuchi Herculis | 8 8.9 8 8.9 | 1 4 3 3 4 | | 30 4 31 1 | 3,26 48,71 15,54 10,01 44,24 | 3,197 2,673 3,224 2,427 2,774 | 8,4169 ,4324 ,4059 ,4521 ,4100 | -8,7905 ,8100 ,7937 ,8421 ,8029 | +0,5047 ,4270 ,5084 ,3851 ,4431 | +7,4338 -7,9177 +7,5039 -8,1146 -7,7734 |

| No. | No. Obs. | Declination Jan. 1, 1836. | Annual Preces- | | Logarith | ms of | | zi No. | Annua | 1 P.M. |
|--------------------------------------|-----------------------|--|---|--|---|---|---|---------------------------------|--|---|
| | O DS. | Jan. 1, 1050. | sion. | a' | b' | c' | d' | Piazzi | A. R. | Decn. |
| 1036 1037 1038 1039 1040 | 5 2 4 4 4 | - 8 1 49,29 - 8 1 2,00 - 20 26 36,12 - 18 4 53,22 + 54 58 55,53 | " 10,472 10,427 10,357 10,337 10,288 | +9,4928 +9,4928 +9,0334 +9,1673 +9,9782 | +8,8643 +8,8616 +9,2566 +9,2048 -9,6236 | -1,0200 ,0182 ,0153 ,0144 ,0123 | +9,9308 ,9315 ,9325 ,9328 ,9356 | 240 243 244 249 262 | *,006 +,011 +,011 +,011 +,001 +,002 | - ,01 - ,00 - ,21 + ,01 - ,12 |
| 1041 1042 1043 1044 1045 | 1 2 3 4 3 | -27 16 4,24 -38 39 23,51 + 5 51 37,02 -18 33 6,01 -19 0 51,87 | 10,237 10,182 10,137 10,036 10,017 | -7,9031 $-9,2988$ $+9,7152$ $+9,1303$ $+9,1072$ | +9,3695 +9,5016 -8,7122 +9,2026 +9 2121 | 1,0102 ,0079 ,0059 ,0016 ,0007 | +9,9343 ,9352 ,9358 ,9373 ,9376 | 257 260 269 273 275 | +,004 +,011 +,008 +,009 +,015 | - ,02 + ,09 - ,07 + ,02 + ,16 |
| 1046 1047 1048 1049 1050 | 4 3 4 3 5 | + 5 50 46,53 +17 29 53,33 -27 42 9,40 -19 4 18,61 +18 21 28,23 | 9,966 9,961 9,794 9,758 9,717 | +9,7160 +9,8280 -8,3424 +9,0934 +9,8370 | -8,7036 -9,1741 +9,3565 +9,2018 -9,1836 | ,9983 ,9909 ,9893 | +9,9383 ,9384 ,9408 ,9412 ,9418 | 281 285 5 7 11 | +,017 +,001 +,005 +,004 -,003 | - ,06 - ,03 + ,03 - ,01 + ,05 |
| 1051 1052 1053 1054 1055 | 4 5 4 3 4 | $\begin{array}{c} -21 \ 57 \ 27,85 \\ + \ 6 \ 27 \ 46,91 \\ + \ 6 \ 19 \ 29,10 \\ -30 \ 29 \ 47,94 \\ -39 \ 1 \ 24,20 \end{array}$ | 9,610 9,605 9,538 9,301 9,276 | +8,8692 +9,7243 +9,7235 -8,8808 -9,3463 | +9,2537 -8,7310 -8,7190 +9,3623 +9,4645 | ,9825 ,9795 ,9685 | +9,9433 ,9433 ,9442 ,9473 ,9477 | 17 20 24 35 37 | +,001 +,013 +,018 ,000 +,005 | - ,12 + ,01 + ,03 - ,04 - ,07 |
| 1056 1057 1058 1059 1060 | 4 4 4 3 5 | +19 15 20,32 -19 39 10,32 -19 42 55,50 -19 42 43,27 +17 1 16,14 | | +9,8463 +9,0414 +9,0334 +9,0334 +9,8299 | -9,1830 +9,1888 +9,1883 +9,1883 -9,1254 | ,9637 ,9622 ,9622 | +9,9478 ,9486 ,9490 ,9490 ,9494 | 43 45 48 49 53 | +,017 ,000 ,000 -,003 -,007 | - ,07 - ,10 - ,08 - ,11 + ,06 |
| 1061 1062 1063 1064 1065 | | $\begin{array}{c} +\ 5\ 56\ 31,76 \\ +12\ 20\ 18,86 \\ -38\ 48\ 3,00 \\ +\ 3\ 16\ 7,13 \\ +\ 3\ 28\ 38,75 \end{array}$ | 9,026 9,006 | +9,7193 +9,7882 -9,3483 +9,6848 +9,6875 | 8,9831 | ,9555 ,9545 ,9507 | ,9510 ,9510 | 52 57 55 62 63 | +,012 +,008 +,017 +,003 +,017 | — ,05 — ,07 — ,06 — ,05 — ,15 |
| 1066 1067 1068 1069 1070 | 4 2 4 | +13 51 5,82 -29 0 52,38 -23 4 25,95 -26 11 2,40 - 9 41 | | $ \begin{array}{r} +9,8028 \\ -8,7482 \\ +8,6628 \\ -7,9031 \\ +9,4409 \end{array} $ | +9,3289 +9,2360 +9,2868 | ,9451 ,9446 ,9438 | +9,9522 ,9533 ,9535 ,9537 ,9544 | 65 67 68 70 76 | +,008 +,001 +,004 +,013 | - ,09 + ,04 - ,02 - ,04 |
| 1071 1072 1073 1074 1075 | 4 4 4 | + 3 14 42,67 -24 46 45,40 -35 11 15,49 + 2 26 35,23 +22 5 10,37 | 8,449 8,206 8,088 | +9,6848 +8,1461 -9,2355 +9,6739 +9,8739 | +9,2475 +9,3730 -8,2338 | ,9268 ,9141 ,9079 | ,9614 | 85 87 99 109 124 | -,007 +,010 | - ,03 - ,16 + ,01 - ,13 + ,23 |
| 1076 1077 1078 1079 1080 | 4 4 4 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 7,747 7,595 7,562 | +9,4983 +9,9096 | $ \begin{array}{c c} & -9,0725 \\ & +8,6766 \\ & -9,2391 \end{array} $ | ,8891 3 ,8805 8786 | ,9648 ,9663 ,9666 | 130 138 | +,004 +,010 +,012 | 08, — 10, — 10, — 03, — |

| No. | Star's name and | Mag. | No. Obs. | As | Right scension | Annual Preces- | | Logarit | hms of | |
|--------------------------------------|--|-------------------------|-----------------------|-----|---|-------------------------|---|---|---|---|
| | 1 | | Obs. | Jan | . 1, 1836. | sion. | a | ь | c | d |
| 1083 1083 1083 1084 1085 | Herculis Ophiuchi Scorpii | 8.9 7.8 8.9 8 | 3 4 4 4 4 | 16. | m. s. 32 34,98 34 20,31 35 45,37 36 55,62 37 13,77 | 2,634 2,974 3,892 | 8,3944 ,4107 ,3798 ,4510 ,4682 | -8,7920 ,8179 ,7952 ,8733 ,8916 | +0,4944 ,4206 ,4733 ,5902 ,3288 | +7,0370 -7,9284 -7,2581 +8,1917 -8,2458 |
| 1086 1087 1088 1089 1090 | Herculis Scorpii | 9 7.8 8 | 3 2 4 | | 39 41 18,67 42 22,66 42 28,25 42 | 2,881 | —8,4856 ,4754 ,3493 ,4705 ,4675 | 8,9225 ,9235 ,8033 ,9257 ,9249 | +0,6212 ,6214 ,4595 ,6225 ,6219 | +8,3073 +8,2967 -7,5164 +8,2936 +8,2892 |
| 109 109 109 109 109 | Scorpii Draconis | 9 7.8 7.8 7.8 | 3 | | 42 55,40 43 31,88 43 45,45 45 4,42 45 12,22 | 4,198 3,895 1,214 | | 9,0862 8,9271 8,8770 9,0492 8,9200 | +9,9886 9,6230 0,5905 0,0842 0,6184 | 8,5621 +8,2893 +8,1524 8,4961 +8,2612 |
| 1096 1098 1098 1098 | Serpentis Ophiuchi Draconis | 7.8 7.8 8 8 | | | 45 15,90 45 48,60 47 2,84 47 16,96 47 47,58 | 3,154 3,198 1,497 | -8,4057 ,3264 ,3204 ,5194 ,4136 | 8,8782 8,8019 8,8039 9,0033 8,9019 | +0,5908 ,4989 ,5049 ,1752 ,6063 | +7,1590 +7,3287 |
| 110 1103 1104 1104 | Draconis | 7.8 9 9 8 9 | 3 3 2 3 | | 49 22,34 49 35,71 50 42,20 50 44,56 51 51,30 | 3,422 3,482 0,273 | -8,3187 ,3194 ,3181 ,6793 ,3607 | -8,8174 8,8194 8,8256 9,1855 8,8762 | +0,5315 0,5343 0,5418 9,4362 0,5874 | +7,7207 +7,7477 +7,8073 -8,6382 +8,0851 |
| 1100 1100 1100 1100 1110 | Herculis Scorpii Herculis | 7.8 9 9 7 8 | 3 3 5 4 4 | | 52 4,98 53 57,73 54 59,19 56 45,21 57 12,03 | 3,466 2,602 | -8,2965 ,4533 ,2894 ,2848 ,2648 | —8,8130 ,9821 ,8263 ,8340 ,8174 | ,2130 ,5398 | $\begin{bmatrix} -8,3259 \\ +7,7616 \\ -7,8171 \end{bmatrix}$ |
| 111 1113 1113 1114 | Herculis Ophiuchi | 9 8 9 8 9 | 1 4 4 6 1 | 17 | 59 33,91 1 13,12 1 26,47 1 59,44 2 24,30 | 2,399 3,713 3,723 | -8,2585 -,2784 -,2731 -,2700 -,2670 | —8,8290 ,8610 ,8579 ,8595 ,8596 | ,5697 ,5709 | +7,7330 -7,9406 +7,9226 +7,9246 +7,9213 |
| 1110 1111 1111 1112 | Herculis Scorpii | 8 7 8 8 9 | 4 3 4 3 | | 3 51,22 4 16,12 4 29,85 5 4,54 5 5,29 | 2,479 2,478 3,929 | -8,2119 ,2453 ,2433 ,2765 ,2505 | -8,8152 ,8517 ,8519 ,8906 ,8646 | ,3941 | -7,3608 -7,8619 -7,8602 +8,0188 +7,9190 |
| 112 112 112 112 112 | 2 ———————————————————————————————————— | 9 8 7 7 8 | 4 3 4 2 6 | | 6 46,94 6 52,36 8 1,17 8 52,21 10 17,87 | 3,651 2,490 | -8,1981 ,1981 ,2134 ,2067 ,1551 | 8,8269 ,8267 ,8524 ,8521 ,8142 | +0,4365 ,4355 ,5624 ,3962 ,4953 | -7,6035 +7,8244 |

| No. | No. Obs. | Declination Jan. 1, 1836. | Annual Preces- | | Logarith | ims of | | zzi No. | Annual | P. M. |
|--------------------------------------|-----------------------|--|---|---|---|---|---|---------------------------------|--|---|
| | 05. | | sion. | a' | b' | c' | d' | Piazzi | A. R. | Decn. |
| 1081 1082 1083 1084 1085 | 4 4 3 4 4 | - 2 30 41,61 +19 14 26,44 + 4 19 56,92 -33 23 33,20 +36 49 16,87 | 7,449 7,308 7,188 7,090 7,074 | +9,5944 +9,8555 +9,7016 -9,1847 +9,9581 | +8,2127 -9,0796 -8,4329 +9,2894 -9,3253 | 0,8721 ,8638 ,8566 ,8507 ,8496 | +9,9677 ,9690 ,9701 ,9710 ,9711 | 148 160 166 167 172 | s. ,000 +,021 +,017 +,012 +,007 | - ,35 - ,11 - ,09 + ,05 - ,03 |
| 1086 1087 1088 1089 1090 | 4 4 4 | $\begin{array}{r} -41\ 32 \\ -41\ 29\ 55,99 \\ +\ 8\ 27\ 34,70 \\ -41\ 42\ 43,12 \\ -41\ 32 \end{array}$ | 6,883 6,729 6,647 6,630 6,603 | -9,4742 -9,4757 +9,7536 -9,4829 -9,4786 | +9,3575 +9,3472 -8,6878 +9,3427 +9,3394 | 0,8377 ,8279 ,8226 ,8215 ,8197 | +9,9727 ,9740 ,9747 ,9748 ,9750 | 179 192 208 199 204 | , 0 02 +,010 ,003 | - ,01 - ,05 ,00 |
| 1091 1092 1093 1094 1095 | 4 3 4 3 4 | +58 57 5,71 -41 48 47,29 -33 11 43,42 +55 40 38,45 -40 33 8,14 | 6,608 6,542 6,525 6,432 6,404 | +0,0137 -9,4871 -9,1903 +0,0116 -9,4564 | 9,4509 +9,3377 +9,2511 9,4233 +9,3178 | 0,8201 ,8157 ,8146 ,8083 ,8064 | +9,9750 ,9755 ,9757 ,9764 ,9766 | 217 209 211 229 218 | +,015 ,012 +,020 +,027 +,008 | - ,02 - ,09 - ,03 - ,19 - ,15 |
| 1096 1097 1098 1099 1100 | 4 4 4 4 4 | -33 14 0,18 - 3 53 22,43 - 5 51 7,84 +51 2 56,18 -37 21 21,89 | 6,399 6,360 6,255 6,249 6,194 | -9,1931 +9,5670 +9,5250 +0,0047 -9,3655 | +9,2431 +8,3341 +8,5025 -9,3847 +9,2731 | 0,8061 ,8034 ,7962 ,7958 ,7919 | +9,9767 ,9769 ,9777 ,9778 ,9782 | 222 226 235 241 237 | +,002 +,011 +,019 +,004 +,024 | + ,11 + ,04 - ,08 + ,05 - ,05 |
| 1101 1102 1103 1104 1105 | 4 4 2 4 4 | —14 36 33,92 —15 33 5,52 —17 57 33,14 +65 28 19,22 —32 0 33,00 | 6,060 6,044 5,949 5,966 5,849 | +9,2528 +9,2095 +9,0719 +0,0204 -9,1430 | +8,8825 +8,9073 +8,9617 -9,4326 +9,1895 | 0,7825 ,7813 ,7745 ,7757 ,7671 | +9,9792 ,9793 ,9800 ,9798 ,9807 | 244 245 254 264 259 | +,001 +,014 +,006 +,032 +,001 | - ,09 - ,23 + ,01 - ,23 - ,05 |
| 1106 1107 1108 1109 1110 | 4 4 4 4 4 | +11 10 4,50 +48 14 54,50 -17 14 57,56 +19 55 28,11 -12 10 58,38 | 5,838 5,687 5,592 5,446 5,407 | +9,7860 +0,0017 +9,1106 +9,8669 +9,3444 | 8,7513 9,3256 +8,9177 8,9664 +8,7559 | 0,7662 ,7549 ,7476 ,7361 ,7329 | +9,9807 ,9818 ,9824 ,9833 ,9836 | 262 275 274 287 288 | +,014 +,005 +,015 +,005 +,005 | + ,02 + ,06 - ,09 - ,15 - ,09 |
| 1111 1112 1113 1114 1115 | 3 4 4 8 1 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | +9,1004 +9,9185 -8,6434 -8,6990 -8,6990 | +8,8889 $-9,0652$ $+9,0506$ $+9,0512$ $+9,0480$ | 0,7164 ,7049 ,7030 ,6986 ,6957 | +9,9848 ,9856 ,9858 ,9861 ,9863 | 300 312 308 311 1 | +,012 +,016 +,010 +,001 -,007 | ,00 + ,05 — ,06 — ,09 — ,02 |
| 1116 1117 1118 1119 1120 | 4 4 3 4 4 | + 8 6 2,67 +24 26 35,47 +24 27 23,15 -33 32 23,80 -27 46 16,45 | 4,849 4,815 4,792 4,736 4,736 | +9,7536 +9,9009 +9,9015 -9,2430 -8,8388 | 8,5326 8,9972 8,9955 +9,1159 +9, 04 19 | -0,6856 ,6826 ,6805 ,6754 ,6754 | +9,9869 ,9871 ,9872 ,9875 ,9875 | 8 11 15 10 12 | +,022 +,026 +,020 +,011 +,012 | - ,07 - ,06 - ,11 + ,07 - ,09 |
| 1121 1122 1123 1124 1125 | 4 4 2 5 4 | +14 29 44,79 +14 44 48,46 -24 5 49,65 +23 55 52,28 - 2 37 37,48 | 4,590 | +9,8215 +9,8248 -7,3010 +9,8987 +9,5888 | -8,7583 -8,7651 +8,9609 -8,9517 +7,9930 | ,6616 ,6519 ,6458 | ,9883 ,9888 ,9892 | 25 26 31 37 45 | -,001 +,020 +,005 ,000 -,001 | - ,42 - ,16 - ,05 - ,01 - ,08 |

| - | No. | Star's name and Ma | | No. Obs. | | Rigi | nt sion | Annual Preces- | | Logarit | hms of | |
|---|--------------------------------------|--|---------------------------|-----------------------|--|---|---|--|---|--|---|--|
| | | | | Obs. | Jan. | 1, | 1836. | sion. | a | <i>b</i> | c | d |
| | 126 127 128 129 130 | Ophiuchi Serpentis Ophiuchi | 7.8 8 8 8 | 4 4 3 4 4 | | 10 11 11 | s. 20,14 47,47 15,47 46,90 9,22 | s. +3,716 3,126 3,715 3,368 3,634 | -8,2019 ,1510 ,1935 ,1529 ,1767 | 8,8615 ,8143 ,8617 ,8254 ,8517 | +0,5701 ,4950 ,5700 ,5274 ,5604 | +7,8496 +6,8021 +7,8405 +7,5023 +7,7756 |
| | 131 132 133 134 1135 | Herculis Draconis Ophiuchi Herculis | 7 9 8 9 7 | 2 2 1 3 2 | | 12 12 13 | 38,63 44,89 52,11 6,37 28,88 | 1,516 1,110 2,847 3,676 2,438 | -8,3259 ,3898 ,1383 ,1722 ,1719 | 9,0053 9,0699 8,8208 8,8573 8,8602 | +0,1807 ,0453 ,4544 ,5654 ,3870 | $\begin{bmatrix} -8,3097 \\ -7,3596 \\ +7,7971 \end{bmatrix}$ |
| - | 1136 1137 1138 1139 1140 | Scorpii Ophiuchi ———————————————————————————————————— | 8.9 8 8.9 8 | 3 2 3 1 4 | *** | | 36,73 4,17 4,76 59,11 49,88 | 3,526 2,839 3,642 3,280 3,749 | 8,1499 ,1276 ,1587 ,1179 ,1557 | 8,8401 ,8217 ,8534 ,8212 ,8677 | +0,5473 ,4532 ,5613 ,5159 ,5739 | +7,7625 |
| | 1141 1142 1143 1144 1145 | Ophiuchi Herculis Ophiuchi Draconis | 8 7 8.9 9 8 | 2 2 2 2 3 | | 16 16 16 16 | 5,82 7,59 52,36 55,65 1,88 | 2,752 2,860 2,536 3,579 1,114 | 8,1142 ,1066 ,1270 ,1239 ,3469 | 8,8282 8,8214 8,8493 8,8469 9,0098 | +0,4396 ,4564 ,4041 ,5538 ,0469 | -7,7018 |
| | 1146 1147 1148 1149 1150 | Ophiuchi —— Draconis | 9 7.8 9 | 3 3 3 2 | Communication of the communica | 18 18 19 19 20 | | 2,869 | -8,0990 ,0974 ,0730 ,0677 ,2877 | | +0,4312 ,4278 ,5165 ,4577 ,1096 | -7,5516 +7,2845 -7,2417 |
| | 1151 1152 1153 1154 1155 | | 9 7 9 8 8.9 | 2 2 3 2 2 | | 21 | | 3,433 2,996 3,299 | ,0658 | 8,8338 8,8184 | ,5357 ,4765 ,5184 | -7,3011 +7,4927 -6,7851 +7,2901 -8,1724 |
| | 1156 1157 1158 1159 1160 | Herculis Ophiuchi ———————————————————————————————————— | 9 8 8 8 9 | 3 4 5 2 2 | | 22 22 23 | 17,69 27,95 55,21 21,22 27,99 | 3,130 3,123 2,648 | ,0344 ,0289 ,0447 | ,8186 ,8186 ,8393 | ,4955 ,4946 ,4229 | +6,6508 -7,5265 |
| | 1161 1162 1163 1164 1165 | Ophiuchi Herculis Ophiuchi | 9 8.9 8 7.8 8 | 2 | | $ \begin{array}{r} 24 \\ 24 \\ 24 \end{array} $ | 34,38 4 6,78 42,98 43,93 5 31,42 | 3,626 2,266 2,358 | ,0499 ,0760 ,0629 | ,8543 ,8870 ,8739 | ,5594 ,3553 ,3725 | [-7,7383] |
| | 1166 1167 1168 1169 1170 | Herculis | 7.8 7.8 7.8 7.8 | . 4 | | 27 28 | 3 49,37 7 24,54 3 13,67 3 59,38 9 24,28 | 3,520 2,783 3,2,557 | ,9960 ,9719 ,9820 | ,8436 ,829 <i>5</i> ,8501 | ,5465 ,4445 ,4077 | $\begin{array}{c c} +7,5060 \\ -7,2951 \\ -7,5383 \end{array}$ |

| No. | No. Obs. | Declination Jan. 1, 1836. | Annual Preces- | | Logarit | hms of | 1. | zi No. | Annua | l P. M. |
|--------------------------------------|-----------------------|--|--|---|---|---|---|---------------------------------|--|---|
| | O Dis. | | sion. | a' | Ъ′ | c' | d' | Piazzi | A. R. | Decn. |
| 1126 1127 1128 1129 1130 | 4 3 3 4 2 | -26 22 22,63 -2 34 11,87 -26 19 37,42 -12 54 35,42 -23 24 11,33 | -4,287 4,253 4,207 4,167 4,144 | -8,6532 +9,5911 -8,6532 +9,3117 +8,0000 | +8,9779 +7,9778 +8,9690 +8,6672 +8,9144 | -0,6321 ,6287 ,6240 ,6198 ,6175 | +9,9898 ,9900 ,9902 ,9904 ,9906 | 41 46 48 55 57 | s. +,004 +,002 +,005 +,001 +,002 | + ,04 + ,02 - ,02 - ,11 - ,06 |
| 1131 1132 1133 1134 1135 | 4 2 2 2 4 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 4,104 4,099 4,076 4,053 4,025 | +0,0124 +0,0232 +9,7716 -8,2787 +9,9117 | —9,1947 —9,2305 —8,5296 +8,9307 —8,9399 | -0,6133 ,6126 ,6102 ,6078 ,6047 | +9,9907 ,9907 ,9908 ,9909 ,9911 | 69 72 66 62 71 | +,026 +,014 +,026 +,033 +,017 | - ,21 - ,04 - ,20 - ,16 - ,07 |
| 1136 1137 1138 1139 1140 | 3 3 2 4 4 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 4,007 3,973 3,967 3,893 3,819 | +8,9395 +9,7745 +7,4771 +9,4330 -8,8261 | +8,8197 -8,5325 +8,9004 +8,4921 +8,9436 | -0,6029 ,5991 ,5985 ,5903 ,5819 | +9,9911 ,9913 ,9913 ,9916 ,9920 | 67 74 70 79 82 | +, 0 13 +, 0 18 +,008 +,006 +, 0 26 | - ,06 - ,18 - ,01 - ,09 + ,02 |
| 1141 1142 1143 1144 1145 | 4 3 2 3 2 | +13 33 30,21 + 9 0 39,74 +22 4 34,79 -21 15 42,73 +56 5 56,86 | 3,802 3,796 3,733 3,727 3,727 | +9,8142 +9,7657 +9,8870 +8,6812 +0,0241 | 8,6477 8,4717 8,8449 +8,8290 9,1885 | -0,5800 ,5793 ,5720 ,5714 ,5714 | +9,9920 ,9921 ,9925 ,9924 ,9924 | 85 84 92 89 101 | +,014 +,009 +,006 +,031 +,008 | - ,14 - ,10 + ,06 - ,05 + ,04 |
| 1146 1147 1148 1149 1150 | 3 3 4 3 2 | +15 42 3,62 +16 32 1,72 - 9 21 26,00 + 8 35 13,65 +53 30 1,26 | 3,635 3,607 3,509 3,475 3,469 | +9,8351 +9,8426 +9,4281 +9,7604 +0,0212 | 8,6909 8,7093 +8,4548 8,4129 9,1434 | -0,5605 ,5571 ,5452 ,5409 ,5402 | +9,9927 ,9928 ,9932 ,9934 ,9934 | 102 104 107 108 116 | +,013 +,006 +,021 +,014 | - ,09 + ,04 - ,07 - ,23 - ,18 |
| 1151 1152 1153 1154 1155 | 4 4 3 2 3 | $\begin{array}{c} + \ 9 \ 53 \ 36,97 \\ -15 \ 29 \ 57,26 \\ + \ 3 \ 8 \ 34,61 \\ - \ 9 \ 57 \ 38,98 \\ +53 \ 16 \ 26,95 \end{array}$ | 3,452 3,372 3,348 3,337 3,337 | +9,7752 +9,1903 +9,6875 +9,4082 +0,0212 | | -0,5380 ,5278 ,5248 ,5233 ,5233 | +9,9935 ,9938 ,9938 ,9939 ,9939 | 111 114 119 118 124 | +,017 +,010 •+,004 +,011 +,015 | - ,08 - ,18 - ,27 - ,28 + ,03 |
| 1156 1157 1158 1159 1160 | 3 3 3 2 3 | +22 16 28,74 - 2 41 36,72 - 2 24 12,76 + 17 38 45,84 - 14 39 55,04 | 3,268 3,251 3,210 3,176 3,164 | +9,8899 +9,5877 +9,5944 +9,8531 +9,2304 | -8,7911 +7,8831 +7,8265 -8,6816 +8,6017 | 0,5143 ,5120 ,5065 ,5018 ,5003 | +9,9941 ,9942 ,9944 ,9945 ,9945 | 123 122 126 133 129 | +,013 +,006 -,010 +,006 +,024 | - ,10 ,00 - ,17 - ,09 - ,17 |
| 1161 1162 1163 1164 1165 | 2 2 3 3 4 | $\begin{array}{c} + 0 & 10 & 10,02 \\ -22 & 54 & 17,03 \\ +31 & 17 & 9,22 \\ +28 & 15 & 54,70 \\ -24 & 30 & 28,07 \end{array}$ | 3,153 3,107 3,061 3,061 2,980 | +9,6345 $+8,2041$ $+9,9464$ $+9,9299$ $-8,2304$ | -6,6604 +8,7804 -8,8992 -8,8592 +8,7902 | -0,4987 ,4923 ,4858 ,4858 ,4742 | +9,9946 ,9947 ,9949 ,9949 ,9951 | 132 134 143 141 142 | +,013 +,006 +,017 +,017 -,008 | - ,17 - ,07 + ,02 - ,02 - ,05 |
| 1166 1167 1168 1169 1170 | 3 4 4 4 4 | + 3 41 26,49 -18 52 41,28 +12 9 31,07 +21 6 23,03 +11 45 46,71 | 2,876 2,818 2,755 2,691 2,651 | +9,7738 +8,9590 +9,8007 +9,8814 +9,7973 | -8,3827 +8,6581 -8,4613 -8,6843 -8,4303 | ,4300 | | 149 152 158 163 165 | +,010 +,016 +,016 +,018 +,005 | - ,22 - ,05 + ,05 - ,01 + ,03 |

| No. | Star's name and Mag | No. Obs. | Ascension | Annual Preces- | | Logari | thms of | and a second and a second |
|--------------------------------------|--|---|---|---|--|---|---|---|
| | | | Jan. 1, 1030. | sion. | a | ь | c | d |
| 1171 1172 1173 1174 1175 | Ophiuchi 8 | 9 2 2 2 | h. m. s. 17 30 10,93 30 21,27 30 27,80 30 50,25 30 52,00 | ***. +2,792 | 7,9431 ,9392 ,9598 ,9624 ,9243 | -8,8295 ,8286 ,8492 ,8589 ,8207 | | +7,2262 $-7,5069$ |
| 1176 1177 1178 1179 1180 | Ophiuchi 7 — 8 — 7 Herculis 7 Ophiuchi 8 | 8 3 | 31 26,25 32 7,96 32 36,85 32 56,46 34 35,20 | 2,752 2,753 3,097 2,463 2,845 | 7,9279 ,9165 ,8974 ,9340 ,8714 | —8,8326 ,8327 ,8209 ,8619 ,8273 | +0,4396 ,4398 ,4909 ,3915 ,4541 | 7,2935 7,2805 +6,2587 7,5520 7,0905 |
| 1181 1182 1183 1184 1185 | Ophiuchi 8 | $\begin{bmatrix} 2\\2\\2 \end{bmatrix}$ | 34 49,89 34 56,44 34 59,31 35 32,29 35 45,14 | 3,603 3,231 2,654 2,370 2,458 | -7,8923 ,8617 ,8786 ,9021 ,8858 | 8,8540 ,8246 ,8415 ,8744 ,8630 | | |
| 1186 1187 1188 1189 1190 | Draconis 8 Ophiuchi 8 61 — seq. 7 Draconis 8 | 8 4 8 4 | 36 36 14,24 36 21,34 36 48,22 36 53,67 | | 8,2844 7,8381 7,8339 7,8376 8,0495 | -9,2652 8,8238 8,8221 8,8346 9,0465 | | -6,8427 -6,4988 -7,2172 |
| 1191 1192 1193 1194 1195 | Ophiuchi 8 | $\begin{vmatrix} 8 & 1 \\ 9 & 2 \\ 2 & 2 \end{vmatrix}$ | 37 31,91 38 8,84 38 44,51 39 0,46 40 0,91 | 2,933 2,935 2,936 2,934 4,214 | —7,8129 ,8010 ,7888 ,7834 ,8787 | -8,8241 ,8241 ,8242 ,8243 ,9426 | | -6,7993 $-6,7820$ |
| 1196 1197 1198 1199 1200 | Sagittarii 7 Tauri Pon. 8 Herculis 7 | 5 | 41 26,17 42 1,99 42 38,43 42 38,54 42 | 3,979 3,545 2,897 1,949 3,992 | —7,8081 ,7383 ,7024 ,8165 ,7757 | -8,9057 ,8488 ,8262 ,9386 ,9080 | | 7,6248 |
| 1201 1202 1203 1204 1205 | Ophiuchi V1 Draconis seq. 7 Ophiuchi 7 | 2 3 3 3 3 | 43 43,35 44 3,96 44 53,95 45 3,53 45 33,73 | 3,522 3,549 —1,093 +3,632 3,104 | 7,6932 7,6868 8,1588 7,6675 7,6159 | | +0,5468 + ,5501 - ,0386 + ,5601 + ,4919 | +7,2021 +7,2177 -8,1376 +7,2585 +6,0527 |
| 1206 1207 1208 1209 1210 | Serpentis 7. Telescopii 7 Herculis 7. Serpentis 8 Ophiuchi 8 | 3 | 45 46,82 46 9,03 46 47 22,99 47 47,23 | 3,342 4,256 1,564 3,440 3,525 | 7,6185 ,7238 ,7687 ,5733 ,5668 | -8,8320 8,9499 9,0013 8,8397 8,8474 | ,6290 ,1942 ,5366 | +6,9219 +7,5466 -7,6427 +7,0043 +7,0772 |
| 1211 1212 1213 1214 1215 | Tauri Pon. 7 Ophiuchi 7. Herculis 7 | 8 1 2 4 | 47 57,07 48 46,98 49 11,74 49 13,11 49 59,09 | 2,947 2,951 3,472 2,625 1,705 | 7,5396 ,5092 ,5079 ,5115 ,6157 | 8,8251 ,8251 ,8425 ,8461 ,9785 | + 0,4694 ,4700 ,5406 ,4191 ,2317 | -6,4510 +6,9697 -7,0096 |

| No. | No. Obs. | Declination Jan. 1, 1836. | Annual Preces- | | Logarith | nms of | | zi No. | Annua | 1 P. M. |
|--------------------------------------|-----------------------|--|--|---|---|---|---|---------------------------------|---|---|
| | 000. | : | sion. | a' | <i>b'</i> | c' | d' | Piazzi | A. R. | Decn. |
| 1171 1172 1173 1174 1175 | 4 3 2 3 3 | +11 47 33,18 -11 10 1,20 +20 42 3,71 -23 44 20,86 + 2 7 44,61 | -2,581 2,564 2,564 2,524 2,524 | +9,7973 +9,3692 +9,8785 -7,4771 +9,6730 | -8,4200 +8,3940 -8,6550 +8,7051 -7,6675 | 0,4119 ,4089 ,4089 ,4020 ,4020 | +9,9964 ,9964 ,9964 ,9965 | 171 170 175 173 177 | s. +,004 +,014 +,013 +,012 +,048 | - ,02 - ,11 - ,01 - ,01 + ,02 |
| 1176 1177 1178 1179 1180 | 3 2 4 3 3 | $\begin{array}{c} +13 & 25 & 34,89 \\ +13 & 22 & 52,34 \\ -1 & 18 & 16,59 \\ +24 & 30 & 33,58 \\ +9 & 32 & 2,27 \end{array}$ | 2,477 2,414 2,373 2,350 2,205 | +9,8142 +9,8136 +9,6075 +9,9069 +9,7730 | -8,4576 -8,4450 +7,4347 -8,6871 -8,2606 | 0,3940 ,3827 ,3753 ,3711 ,3434 | +9,9966 ,9968 ,9969 ,9970 ,9973 | 183 185 187 191 199 | +,013 +,010 +,016 +,014 +,011 | + ,01 ,00 - ,06 - ,06 - ,14 |
| 1181 1182 1183 1184 1185 | 4 4 2 2 3 | -21 56 30,42 - 6 59 48,99 +17 18 53,66 +27 43 39,23 +24 39 4,61 | 2,176 2,170 2,170 2,124 2,101 | +8,5051 +9,4914 +9,8513 +9,9279 +9,9079 | +8,6081 +8,1205 -8,5083 -8,6930 -8,6406 | 0,3377 ,3365 ,3365 ,3272 ,3224 | +9,9974 ,9974 ,9974 ,9975 ,9976 | 197 202 205 212 213 | ,006 +,014 +,011 +,019 +,002 | - ,07 - ,06 + ,02 - ,06 - ,19 |
| 1186 1187 1188 1189 1190 | 1 1 3 3 3 | +68 54 10,36 + 5 47 36,33 + 2 39 21,59 +13 51 38,13 +53 25 11,67 | 2,083 2,060 2,049 2,008 2,008 | +0,0350 +9,7269 +9,6803 +9,8189 +0,0245 | 8,9867 8,0165 7,6745 8,3804 8,9055 | -0,3188 ,3139 ,3115 ,3028 ,3028 | +9,9976 ,9977 ,9977 ,9978 ,9978 | 232 214 216 219 224 | +,021 -,001 +,007 -,035 | + ,11 - ,08 - ,11 + ,02 - ,14 |
| 1191 1192 1193 1194 1195 | 2 3 3 3 3 | $\begin{array}{c} +\ 5\ 47\ 22,99 \\ +\ 5\ 43\ 45,24 \\ +\ 5\ 38\ 0,80 \\ +\ 5\ 45\ 34,93 \\ -40\ 42\ 49,14 \end{array}$ | 1,944 1,892 1,840 1,816 1,724 | +9,7259 +9,7251 +9,7243 +9,7259 -9,5065 | -7,9901 -7,9733 -7,9560 -7,9581 +8,7489 | 0,2887 ,2769 ,2648 ,2592 ,2364 | +9,9979 ,9980 ,9982 ,9982 ,9984 | 222 230 234 235 236 | +,016 +,005 +,017 +,012 +,009 | - ,05 - ,19 - ,12 - ,10 - ,17 |
| 1196 1197 1198 1199 1200 | 4 5 4 2 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 1,596 1,549 1,503 1,509 1,474 | -9,3096 +8,8573 +9,7459 +9,9881 -9,3243 | +8,6525 +8,4163 -7,9789 -8,6850 +8,6223 | 0,2030 ,1901 ,1769 ,1786 ,1684 | +9,9986 ,9987 ,9988 ,9988 ,9988 | 248 251 260 262 256 | -,016 +,015 -,003 +,008 | - ,03 - ,16 - ,05 - ,02 |
| 1201 1202 1203 1204 1205 | 3 4 2 4 3 | —18 49 45,28 —19 50 34,56 +72 14 9,93 —22 56 23,95 — 1 34 37,23 | 1,404 1,375 1,323 1,287 1,241 | +8,9494 +8,8388 +0,0342 +8,0414 +9,6096 | +8,3543 +8,3672 -8,7982 +8,3988 +7,2286 | -0,1473 ,1383 ,1214 ,1098 ,0938 | +9,9989 ,9990 ,9990 ,9991 ,9992 | 263 264 287 268 274 | +,026 +,002 +,013 +,004 ,000 | + ,09 - ,07 - ,27 + ,04 - ,02 |
| 1206 1207 1208 1209 1210 | 3 4 1 2 2 | -11 35 41,88 -41 40 57,42 +48 26 31,26 -15 39 6,88 -18 54 23,82 | 1,224 1,189 1,171 1,084 1,049 | +9,3502 -9,5315 +0,0149 +9,1732 +8,9445 | +8,0890 +8,5959 -8,6407 +8,1640 +8,2292 | 0,0876 ,0751 ,0686 ,0350 ,0208 | +9,9992 ,9992 ,9992 ,9994 ,9994 | 276 272 288 284 290 | +,013 +,006 +,002 +,018 | - ,04 - ,03 - ,04 - ,04 - ,06 |
| 1211 1212 1213 1214 1215 | 3 4 3 3 | + 5 11 34,62 + 5 0 42,00 -16 49 55,31 +18 21 22,72 +45 34 59,96 | 1,037 0,967 0,927 0,927 0,868 | +9,7177 +9,7152 +9,1004 +9,8609 +0,0077 | -7,6698 -7,6254 +8,1268 -8,1630 -8,4906 | -0,0159 9,9856 9,9669 9,9669 9,9387 | +9,9994 ,9995 ,9995 ,9995 ,9996 | 292 296 297 300 306 | +,005 +,010 +,006 +,015 +,024 | - ,10 - ,06 - ,03 - ,04 + ,03 |

| No. | Star's name and M | ag. | No. Obs. | As | Rigl | sion | Annual Preces- | | Logarit | hms of | |
|--------------------------------------|---|-------------------------------|-----------------------|-----------|-----------------------|---|--|--|--|---|--|
| | | | | Jan | - 1, | 1836. | sion. | a | <i>b</i> | c | d |
| 1216 1217 1218 1219 1220 | Serpentis Draconis Sagittarii | 7.8 7.8 8 7.8 7.8 | 3 4 3 3 2 | //. 17 | 50 51 52 | s. 21,03 27,33 28,13 35,65 17,36 | s. +3,186 0,715 3,503 3,670 3,971 | -7,4384 ,7466 ,4064 ,3571 ,3560 | 8,8252 9,1303 8,8456 ,8638 ,9054 | +0,5032 9,8543 0,5444 ,5647 | +6,3816 $-7,6860$ $+6,8979$ $+6,9706$ $+7,1041$ |
| 1221 1222 1223 1224 1225 | Herculis Sagittarii Tauri Pon. Sagittarii Herculis | 8 8.9 8.9 9 | 2 3 2 4 | | 53 54 54 | 58,33 6,82 19,87 53,74 | 2,732 3,639 2,965 3,540 2,507 | -7,2694 ,2830 ,2183 ,2270 ,2205 | 8,8371 ,8601 ,8250 ,8493 ,8591 | +0,4365 ,5610 ,4720 ,5490 ,3991 | $ \begin{array}{r} -6,6571 \\ +6,8773 \\ -6,1015 \\ +6,7497 \\ -6,8085 \end{array} $ |
| 1226 1227 1228 1229 1230 | Herculis Telescopii Sagittarii | 8 7.8 8 8 8.9 | ភ ល ១ ១ ១ | | 55 56 57 | 35,31 49,24 23,89 27,59 50,95 | 2,710 4,332 3,790 3,872 3,604 | 7,1020 7,1972 7,0423 6,8861 6,7824 | —8,8389 ,9626 ,8795 ,8909 ,8563 | +0,4330 ,6367 ,5786 ,5879 ,5568 | -6,5155 +7,0342 +6,7192 +6,5982 +6,3535 |
| 1231 1232 1233 1234 1235 | Tauri Pon. Sagittarii Tauri Pon. | 7.8 7 7 7.8 8 | 2 2 2 3 2 | | | 13,48 48,79 4,27 18,62 43,87 | 2,747 3,594 3,723 2,911 2,845 | 6,6800 6,4650 6,3344 6,1937 5,2936 | —8,8360 ,8551 ,8707 ,8269 ,8299 | +0,4389 ,5556 ,5709 ,4640 ,4541 | -6,0476 +6,0284 -5,9780 -5,2607 +4,5105 |
| 1236 1237 1238 1239 1240 | Sagittarii 100 Herculis præc. Ophiuchi | 9 7.8 6.7 8 8.9 | 2 2 5 3 3 | 18 | 0 0 1 1 1 | 6,52 55,74 13,01 27,07 59,57 | 3,657 3,714 2,414 2,441 2,785 | +6,0252 ,5636 ,6565 ,7111 ,8157 | 8,8625 ,8694 ,8705 ,8671 ,8334 | +0,5631 ,5698 ,3827 ,3876 ,4448 | -5,6311 -6,2021 +6,2996 +6,3395 +6,1317 |
| 1241 1242 1243 1244 1245 | Herculis Sagittarii Tauri Pon. | 7 8 7.8 8.9 7.8 | 4 | | 4 4 5 | 54,21 30,55 53,73 5,02 13,54 | 2,283 2,150 3,939 3,664 2,847 | ,2168 ,2512 | —8,8881 ,9079 ,9009 ,8632 ,8296 | +0,3585 ,3324 ,5954 ,5640 ,4544 | $ \begin{array}{r} +6,7194 \\ +6,9701 \\ -6,9888 \\ -6,8399 \\ +6,4888 \end{array} $ |
| 1246 1247 1248 1249 1250 | Sagittarii Tauri Pon. Cly. Sob. Sagittarii Tauri Pon. | 8 7.8 8.9 7.8 7.8 | 3 | | - 9 | , | 4,085 2,784 3,469 4,152 2,789 | +7,4513 ,4525 ,4736 ,5793 ,4899 | —8,9229 ,8331 ,8423 ,9335 ,8328 | +0,6112 ,4447 ,5402 ,6183 ,4454 | -7,2336 $+6,7709$ $-6,9324$ $-7,3790$ $+6,8012$ |
| 1251 1252 1253 1254 1255 | Cly. Sob. Sagittarii Draconis | 8.9 8.9 7.8 8.9 | 3 3 | | 11 12 | 46,99 51,51 8,66 10,52 29,91 | 3,462 3,462 3,733 3,982 —0,332 | +7,5608 ,5632 ,6051 ,6762 8,0613 | 8,8414 ,8414 ,8714 ,9066 9,2606 | ,5393 ,5721 ,6001 | -7,0125 -7,0149 -7,2544 -7,4282 +8,0303 |
| 1256 1257 1258 1259 1260 | Serpentis Tauri Pon. Sagittarii | 7.8 7 8 8 8.9 | 3 3 2 | | 17 18 19 | 21,44 4,39 50,47 11,78 13,87 | +3,096 2,951 3,693 3,954 3,953 | +7,6548 ,7022 ,7867 ,8307 ,8319 | -8,8230 ,8243 ,8656 ,9020 ,9017 | +0,4908 ,4700 ,5674 ,5970 ,5969 | -5,9818 +6,6425 -7,4148 -7,5743 -7,5749 |

| | No. | Declination | Annual | | Logarith: | ms of | | No. | Annua | l P. M. |
|--------------------------------------|------------------------|---|---|--|---|---|--|---------------------------------|---|---|
| No. | Obs. | Jan. 1, 1836. | Preces- sion. | | <i>b'</i> | <i>c'</i> | $-\frac{1}{d'}$ | Piazzi | A. R. | Decn. |
| 1216 1217 1218 1219 1220 | 4 2 2 3 3 | -5 1 37,57 +60 25 39,26 -18 3 28,05 -24 14 43,66 -34 2 51,10 | " 0,823 0,827 0,728 0,624 0,566 | +9,5366 +0,0346 +9,0128 -8,1461 -9,3010 | +7,5560 -8,5553 +8,0521 +8,1066 +8,1986 | —9,9148 ,9179 ,8625 ,7950 ,7524 | +9,9996 ,9996 ,9997 ,9998 | 305 315 308 319 325 | s. +,012 +,004 -,007 -,017 +,019 | - ,24 - ,09 - ,00 - ,01 |
| 1221 1222 1223 1224 1225 | 2 3 2 3 4* | +14 7 47,19 -23 7 53,96 + 4 22 51,34 -19 27 21,19 +22 46 53,72 | 0,543 0,530 0,496 0,476 0,462 | +9,8228 +7,7781 +9,7067 +8,8808 +9,8960 | -7,8199 $+8,0170$ $-7,2765$ $+7,9003$ $-7,9493$ | —9,7341 ,7247 ,6951 ,6795 ,6633 | +9,9998 ,9998 ,9999 ,9999 | 336 330 340 338 345 | +,014 +,012 +,002 +,016 | ,12 ,00 ,29 ,16 ,02 |
| 1226 1227 1228 1229 1230 | 3 3 3 4 | +15 0 13,35 -43 23 49,66 -28 22 5,17 -31 0 46,67 -21 52 18,10 | 0,367 0,343 0,291 0,199 0,169 | +9,8312 9,5705 8,9685 9,1553 +8,4914 | -7,6765 +8,0716 +7,8397 +7,7072 +7,4972 | —9,5650 ,5365 ,4646 ,2972 ,2281 | +9,9999 ,9999 ,9999 0,0000 ,0000 | 350 346 351 355 360 | +,019 +,003 +,016 +,019 +,021 | - ,22 + ,07 + ,04 - ,09 - ,03 |
| 1231 1232 1233 1234 1235 | 3 3 3 2 | +13 28 34,18 -21 27 50,07 -26 7 3,63 $+$ 6 41 31,00 $+$ 9 28 45,97 | 0,140 0,082 0,058 0,046 0,006 | +9,8162 +8,5798 -8,6990 +9,7388 +9,7730 | -7,2116 +7,1733 +7,1074 -6,4338 -5,6806 | -9,1459 8,9118 8,7657 8,6688 7,7657 | +0,0000 ,0000 ,0000 ,0000 | 363 364 365 371 376 | -,020 +,006 ,000 -,001 +,012 | - ,06 - ,01 - ,27 - ,07 - ,22 |
| 1236 1237 1238 1239 1240 | 1 3 3 2 4 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | + 0,029 0,099 0,122 0,140 0,192 | -7,7781 $-8,6434$ $+9,9191$ $+9,9127$ $+9,8007$ | -6,7686 -7,3326 +7,4291 +7,4723 +7,2983 | +8,4647 8,9961 9,0879 9,1459 9,2842 | +0,0000 ,0000 ,0000 ,0000 ,0000 | 375 383 389 391 391 | +,016 +,014 +,017 +,014 +,001 | + ,10 ,09 + ,07 ,17 ,20 |
| 1241 1242 1243 1244 1245 | 5 3 4 4 4 | +30 26 17,31 $+34 31 36,86$ $-33 7 53,72$ $-24 2 14,72$ $+ 9 24 1,78$ | 0,268 0,408 0,449 0,466 0,558 | +9,9445 +9,9652 9,2624 8,0414 +9,7716 | +7,8311 +8,0621 -8,0878 -7,9766 +7,6590 | +9,4284 ,6108 ,6521 ,6687 ,7479 | +0,0000 9,9999 0,0000 ,0000 9,9998 | 6 13 9 12 19 | +,016 +,010 +,012 -,001 +,004 | ,05 ,09 ,06 ,01 ,19 |
| 1246 1247 1248 1249 1250 | 5 4 3 4 4 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 0,677 0,833 0,857 0,886 0,909 | -9,4150 $+9,8007$ $+9,1106$ $-9,4669$ $+9,7993$ | 8,3104 +7,9374 8,0898 8,4451 +7,9686 | +9,8301 ,9209 ,9329 ,9474 ,9587 | +9,9997 ,9996 ,9996 ,9996 ,9995 | 22 30 29 28 35 | -,002 +,009 +,007 +,005 +,023 | - ,11 + ,10 - ,08 - ,08 - ,08 |
| 1251 1252 1253 1254 1255 | 3 4 4 4 3 | —16 26 30,25 —16 26 23,89 —26 29 5,63 —34 24 28,51 +68 35 1,40 | 1,049 1,055 1,084 1,177 1,305 | $ \begin{array}{r} +9,1271 \\ +9,1271 \\ -8,7559 \\ -9,3139 \\ +0,0362 \end{array} $ | -8,1704 -8,1728 -8,3823 -8,5208 +9,7688 | ,0232 | +9,9994 ,9994 ,9994 ,9992 ,9991 | 38 40 41 44 61 | +,011 +,001 +,012 +,004 -,054 | - ,18 - ,07 - ,08 - ,11 + ,08 |
| 1256 1257 1258 1259 1260 | 4 4 3 4 | - 1 13 26,48 + 4 59 57,85 -25 8 15,68 -33 38 41,69 -33 35 32,02 | 1,508 1,666 1,695 | +9,6159 +9,7152 -8,4771 -9,2810 -9,2787 | -7,1578 +7,8169 -8,5477 -8,6707 -8,6716 | ,2216 ,2291 | +9,9990 ,9988 ,9985 ,9984 ,9984 | 59 65 68 69 71 | +,012 +,013 -,002 +,028 +,015 | - ,09 - ,15 - ,20 - ,13 - ,01 |

| No. | Star's name and | Mag. | No. Obs. | | Righ | sion | Annual Preces- | | Logarit | hms of | |
|---|---|-------------------------------|-----------------------|---|---|--|--|---|--|---|---|
| | | | Obs. | Jan | ı. 1, | 1836. | sion. | a | ь | c · | d |
| 1261 1262 1263 1264 1265 | Serpentis Herculis Sagittarii | 8.9 7.8 7.8 8 7.8 | 3 3 3 3 | h. 18 | 19 20 20 | s. 26,58 53,80 5,36 22,83 38,53 | s. +3,066 2,408 2,408 3,665 3,933 | +7,7569 ,8134 ,8176 ,8168 ,8794 | —8,8223 ,8699 ,8699 ,8620 ,8985 | +0,4866 ,3817 ,3817 ,5641 ,5947 | +5,0657 $+7,4608$ $+7,4651$ $-7,4286$ $-7,6159$ |
| 1266 1267 1268 1269 1270 | Cor. Aust. Sagittarii | 8 7.8 7.8 7.8 8.9 | 3 | | $\begin{array}{c} 25 \\ 25 \end{array}$ | 4,50 19,86 34,38 37,51 44,86 | 3,577 3,477 | | 8,9302 ,8983 ,8509 ,8408 ,8806 | | 7,6495 7,4578 7,3636 |
| 1271 1272 1273 1274 1275 | Sagittarii Lyræ Sagittarii Cly. Sob. Tauri Pon. | 8.9 8 7.8 8 7.8 | 2 2 3 | | 27 27 | 50,86 14,17 43,32 49,63 32,48 | 2,003 3,950 3,242 | 8,0074 7,9893 7,9287 | ,9288 ,9001 ,8241 | ,3017 ,5966 ,5108 | +7,8039 -7,7325 -7,0424 |
| 1276 1277 1278 1279 1280 | Tauri Pon. Sagittarii Tauri Pon. Cly, Sob. Aquilæ | 8 | 5 3 2 3 3 | | 30 30 31 | 39,85 28,75 42,73 34,50 25,73 | 3,854 3,116 3,412 | 8,0155 7,9531 2 7,9791 | ,8854 ,8202 ,8341 | ,5859 ,4936 ,5330 | $\begin{bmatrix} -7,7231 \\ -6,5171 \\ -7,3821 \end{bmatrix}$ |
| 1281 1282 1283 1284 1285 | Tauri Pon. Draconis | 7.8 - 7.8 7 | 8 3 8 5 3 | | 33 34 35 | 35,55 51,05 12,39 41,55 59,66 | $ \begin{array}{c cccc} 7 & 2,784 \\ 2,784 \\ 3 & 0.195 \end{array} $ | 0049 4 ,0084 2 ,3948 | 8,8288 8,8288 9,1984 | 0,4447 0,4447 9,2833 | $\begin{pmatrix} +7,3256 \\ +7,3304 \\ +8,3533 \end{pmatrix}$ |
| 1286 1287 1288 1289 1290 | Antinoi Draconis | 7 8.9 7. 8 | 9 1 | | - 37 38 | 5 4,49 5 50,49 7 14,49 8 12,09 8 32,69 | $ \begin{array}{c cccc} 2 & 3,146 \\ 8 & 3,216 \\ 2 & 0,41 \end{array} $ | 0316 0374 0376 0376 | $\begin{bmatrix} 8,8190 \\ 4 & 8,8208 \\ 9,1704 \end{bmatrix}$ | 0,4978 0,5073 1 9,6138 | -6,8025 |
| 129 1 129 2 129 3 129 4 129 5 | Lyræ Draconis Sagittarii | 8. 8 9.1 7. 8 | 0 2 8 3 | } | 39 40 | 7,7 0 10,4 0 55,2 0 25,1 0 48,0 | 3 2,159 3 1,12 5 3,73 | 2 ,142 5 ,314 7 ,120 | 1 8,9032 7 9,0684 6 8,8670 | 3328 4 ,051 0 ,5728 | |
| 1296 1297 1298 1298 1300 | Lyræ Antinoi | 7 8 8 8 | | 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 | 4 4 4 | 0 54,4 1 17,7 1 57,2 2 20,3 2 21,1 | 4 2,35 4 3,29 5 3,21 | 5 ,134 9 ,091 7 ,092 | 8,872 8 8,823 7 8,819 | 7 1 518 1 507 | 0 +7,8125 $4 -7,3301$ $4 -7,1432$ |
| 130 130 130 130 130 | 2 Draconis 3 Herculis 4 Sagittarii | | .9 | 3 | 4 | 2 21,5 2 38,9 2 43,5 3 19,0 4 3,6 | 54 2 ,49 0 - 3,52 | $\begin{vmatrix} 3 & ,416 \\ 1 & ,131 \\ 8 & -,124 \end{vmatrix}$ | 9,141 6 8,854 4 8,841 | 4 9,794 6 0,396 3 0,547 | 5 + 8,3614 4 + 7,7361 5 - 7,6436 |

| No. | No. | Declination | Annual Preces- | | Logarith | ms of | | zi No. | Annual | P. M. |
|--------------------------------------|-----------------------|--|---|--|---|--|---|----------------------------------|---|---|
| | Obs. | Jan. 1, 1836. | sion. | a' | <i>b'</i> | c' | d' | Piazzi | A. R. | Decn. |
| 1261 1262 1263 1264 1265 | 4 3 5 4 5 | + 0 6 19.57 $+ 26 22 12.50$ $+ 26 21 26.11$ $- 24 9 47.71$ $- 33 2 42.87$ | + 1,718 1,753 1,770 1,799 1,909 | +9,6395 +9,9196 +9,9196 -8,0414 9,2528 | +6,2418 +8,5892 +8,5935 -8,5507 -8,7154 | +0,2350 ,2437 ,2480 ,2551 ,2809 | +9,9984 ,9983 ,9983 ,9983 ,9980 | 77 83 84 81 87 | s. +,008 +,010 +,012 +,008 +,007 | -,19 +,06 +,08 +,07 -,01 |
| 1266 1267 1268 1269 1270 | 2 2 4 4 4 | —38 49 42,20 —33 4 48,88 —20 57 41,65 —17 6 23,00 —29 21 50,11 | 1,950 2,060 2,251 2,310 2,356 | -9,4564 -9,2528 +8,6902 +9,0899 -9,0374 | -8,7852 -8,7488 -8,6042 -8,5200 -8,7607 | +0,2900 ,3139 ,35 2 5 ,3536 ,3721 | +9,9979 ,9977 ,9972 ,9972 ,9970 | 90 97 110 111 117 | +,002 +,002 +,029 +,013 +,009 | |
| 1271 1272 1273 1274 1275 | 3 3 4 4 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 2,362 2,385 2,443 2,530 2,587 | 8,1139 +9,9818 9,2742 +9,4786 +9,7924 | 8,7649 +8,8720 8,8291 8,2148 +8,4024 | +0,3732 ,3774 ,3879 ,4030 ,4128 | +9,9970 ,9969 ,9967 ,9965 ,9963 | 118 126 122 130 133 | -,006 +,028 +,008 -,018 +,007 | — ,05 — ,10 — ,02 — ,03 |
| 1276 1277 1278 1279 1280 | 4 3 2 3 4 | +11 13 24,10 -30 40 10,67 - 2 5 20,71 -14 39 0,39 - 7 29 12,86 | 2,599 2,680 2,697 2,772 2,934 | $\begin{array}{r} +9,7917 \\ -9,1206 \\ +9,5999 \\ +9,2304 \\ +9,4786 \end{array}$ | +8,4018 -8,8337 -7,6929 -8,5438 -8,2802 | ,4309 ,4428 | +9,9963 ,9961 ,9960 ,9958 ,9953 | 134 136 138 140 152 | +,017 +,001 +,020 +,012 +,017 | + ,01 - ,22 - ,08 - ,15 - ,02 |
| 1281 1282 1283 1284 1285 | 4 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 2,968 2,997 3,112 | -9,4786 +9,8000 +9,8007 +0,0326 +9,7589 | -8,9749 +8,4920 +8,4968 +9,1496 +8,3642 | ,4725 ,4767 ,4931 | +9,9952 ,9952 ,9951 ,9947 ,9946 | 148 154 156 173 163 | ,023 +,009 +,013 +,009 +,011 | - ,42 + ,05 - ,03 - ,08 - ,10 |
| 1286 1287 1288 1289 1290 | 4 3 4 | +62 22 43,68 - 3 23 36,30 - 6 25 0,97 +63 38 22,03 +38 22 6,93 | 3,227 3,256 3,325 | +0,0318 +9,5740 +9,5065 +0,0318 +9,9786 | +9,1418 -7,9779 -8,2590 +9,1721 +9,0187 | ,5218 | ,9943 ,9942 | 174 168 171 190 182 | +,054 +,002 +,019 -,012 -,009 | + ,04 ,06 ,14 ,04 ,05 |
| 1291 1292 1293 1294 1295 | 3 | -20 19 41,13 +34 50 24,69 +55 53 -26 56 58,53 -22 26 48,43 | 3,423 3,480 3,538 | +8,8129 +9,9633 +0,0245 -8,7708 +8,3979 | -8,7726 +8,9892 +9,1576 -8,9031 -8,8322 | ,5344 ,5416 ,5487 | ,9933 | 180 188 198 191 194 | +,018 -,006 +,047 +,010 ,000 | - ,14 - ,06 - ,14 - ,01 |
| 1296 1297 1298 1299 1300 | 3 3 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 3,601 3,658 3,698 | +9,5132 +9,9294 +9,4099 +9,5065 +0,0282 | -8,4995 -8,3166 | ,5564 ,5633 ,5680 | ,9929 ,9926 | 197 200 201 204 221 | +,012 +,003 +,005 +,010 +,001 | - ,06 - ,06 - ,15 - ,02 - ,01 |
| 1301 1302 1303 1304 1305 | 2 2 3 | +32 35 55,53 +61 46 1,66 +23 42 51,03 —19 18 33,29 +33 9 56,67 | 3,710 3,727 3,779 | +9,9518 +0,0298 +9,8987 +8,9294 +9,9542 | +9,2124 +8,8739 -8,7946 | ,5694 ,5714 ,5773 | | 207 -212 209 208 216 | +,005 -,009 +,017 +,019 +,015 | + ,10 - ,08 - ,05 |

| No. | Star's name and I | Mag. | No. Obs. | A | Rig | sion | Annual Preces- | | Logarit | hms of | |
|--------------------------------------|---|---------------------------|-----------------------|---|------------------|--|--|---|--|--|---|
| • | | | 0.03. | Jan | . 1, | 1836. | sion. | a | ъ | c | d |
| 1306 1307 1308 1309 1310 | Sagittarii Lyræ Herculis Lyræ Serpentis | 8 8 7.8 8 6.7 | 3 2 4 2 1 | h. 18 | 47 | s. 1,95 16,95 23,25 59,94 10,53 | s. +3,806 1,826 2,588 1,827 3,016 | +8,1766 ,2760 ,1651 ,2819 ,1451 | —8,8753 ,9541 ,8420 ,9538 ,81 4 5 | +0,5805 ,2615 ,4130 ,2617 ,4794 | |
| 1311 1312 1313 1314 1315 | o Draconis pr. Sagittarii Aquilæ Segittarii Aquilæ | 8.9 8.9 8 7.8 | 3 2 4 4 3 | | 49 51 | 45,46 42,27 2,88 28,40 45,64 | 0,877 3,769 3,137 3,633 2,721 | +8,4395 ,2138 ,1705 ,2112 ,1903 | 9,1047 8,8687 ,8136 ,8502 ,8275 | +9,9430 0,5762 ,4965 ,5603 ,4347 | +8,3735 -7,8892 -6,8965 -7,8111 +7,6010 |
| 1316 1317 1318 1319 1320 | Aquilæ Antinoi pr. ———————————————————————————————————— | 8.9 8 8.9 8.9 | 5 2 3 | | 54 54 54 | 28,84 18,10 19,08 46,38 47,74 | 3,089 3,090 3,674 | +8,1958 ,1958 ,1963 ,2427 ,3629 | ,8116 | +0,4357 ,4898 ,4900 ,5651 ,2276 | -6,4077 $-6,4159$ $-7,8692$ |
| 1321 1322 1323 1324 1325 | Aquilæ Sagittarii Lyræ Aquilæ | 8.9 8 8 8.9 7 | 3 | | 55 56 | 5,89 30, 08 | 3,091 2,859 3,743 2,071 2,854 | +8,2056 ,2142 ,2622 ,3131 ,2249 | -8,8110 ,8163 ,8628 ,9115 ,8159 | ,4562 ,5732 ,3162 | |
| 1326 1327 1328 1329 1330 | Aquilæ Lyræ ———————————————————————————————————— | 8 7 7.8 8 7.8 | 2 | | 58 58 | | 2,307 2,063 2,041 | +8,2295 ,2930 ,3315 ,3391 ,2364 | -8,8158 ,8741 ,9121 ,9156 ,8114 | +0,4550 ,3630 ,3145 ,3098 ,4675 | +7,4486 +7,9985 +8,1195 +8,1332 +7,2496 |
| 1331 1332 1333 1334 1335 | Antinoi Sagittarii Ly ræ Vulpeculæ Draconis | 8.9 8.9 7.8 7.8 | 3 1 2 | 19 | 59 59 0 | 30,54 31,89 41,35 18,45 54,74 | 3,737 1,602 2,594 | ,2870 ,4154 | | | -7,9495 +8,2907 +7,8056 |
| 1336 1337 1338 1339 1340 | Aquilæ Sagittarii Lyrœ | 8 7.8 8 7 7.8 | 3 2 | | 1 2 | 39,54 52,64 | 3,552 2,030 2,076 | ,3651 ,3590 | ,8366 ,9163 | ,3075 | $-7,8249 \\ +8,1631 \\ +8,1449$ |
| 1341 1342 1343 1344 1345 | | 8.9 8.9 8 8.9 | 2 3 | parioda (Conditional Community) spakestic schemes properties desirement | 3 4 | 3,30 26,43 47,83 50,41 51,44 | 3,553 3,609 3,489 | ,2997 ,2930 | -8,8112 ,8359 ,8422 ,8284 ,8543 | ,5574 | 7,8390 7,8886 7,7869 |
| 1346 1347 1348 1349 1350 | Sagittarii Aquilæ Sagittarii | 7.8 7 7.8 8 | 2 3 | | 5 5 6 6 | 46,66 14,29 | 2,899 3,414 | ,3044 ,2840 ,2963 | -8,8669 ,8328 ,8091 ,8206 ,8104 | | -7,8399 +7,3997 |

| No. | No. | Declination Jan. 1, 1836. | Annual Preces- | | Logaritl | hms of | ٠ | zi No. | Annual | P. M. |
|--------------------------------------|-----------------------|---|--|---|---|---|---|---------------------------------|---|---|
| | | · · | sion. | a' | <i>b'</i> | c' | d' | Piazzi | A. R. | Decn. |
| 1306 1307 1308 1309 1310 | 5 3 4 6 4 | -29 24 41,86 +43 30 47,62 +20 9 26,11 +43 30 55,04 + 2 15 55,68 | +3,933 4,116 4,127 4,173 4,196 | 9,0128 +9,9952 +9,8716 +9,9948 +9,6749 | -8,9838 $+9,1504$ $+8,8512$ $+9,1564$ $+7,9180$ | +0,5947 ,6145 ,6157 ,6204 ,6228 | +9,9915 ,9904 ,9906 ,9904 ,9903 | 217 235 234 244 241 | s. +,014 +,020 +,025 +,014 +,020 | - ,03 - ,04 - ,11 - ,09 - ,10 |
| 1311 1312 1313 1314 1315 | 3 4 4 2 4 | +59 11 50,16 -28 15 56,44 -3 3 9,37 -23 27 0,43 +14 54 35,95 | 4,236 4,332 4,446 4,486 4,503 | +0,0261 -8,9031 +9,5821 +8,0000 +9,8261 | +9,2589 -9,0102 -8,0720 -8,9497 +8,7622 | +0,6269 ,6367 ,6480 ,6519 ,6535 | +9,9901 ,9896 ,9890 ,9888 ,9887 | 248 246 251 253 259 | -,002 +,018 +,010 +,017 +,021 | - ,09 + ,06 - ,01 + ,02 - ,22 |
| 1316 1317 1318 1319 1320 | 4 5 3 4 4 | +14 41 22,49 - 0 56 11,29 - 0 56 31,08 -25 3 7,61 + 46 43 43,82 | 4,565 4,719 4,724 4,764 4,753 | +9,8241 +9,6212 +9,6212 -8,2553 +0,0017 | +8,7615 -7,5837 -7,5919 -9,0025 +9,2372 | +0,6595 ,6738 ,6743 ,6780 ,6769 | +9,9884 ,9876 ,9876 ,9874 ,9874 | 263 274 275 277 285 | +,013 +,007 +,006 +,003 +,002 | - ,20 - ,20 - ,10 - ,17 - ,06 |
| 1321 1322 1323 1324 1325 | 4 4 3 3 4 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 4,826 4,860 4,877 4,900 4,979 | +9,6201 +9,7649 -8,7993 +9,9708 +9,7679 | -7,6307 +8,5861 -9,0508 +9,1735 +8,6082 | +0,6836 ,6867 ,6882 ,6902 ,6971 | +9,9870 ,9868 ,9867 ,9866 ,9862 | 284 288 286 296 297 | +,010 +,010 +,010 +,007 +,018 | - ,12 - ,10 - ,09 - ,12 - ,09 |
| 1326 1327 1328 1329 1330 | 33322 | + 9 31 37,60 +30 29 26,68 +37 51 48,97 +38 29 51,92 + 5 54 47,96 | 5,030 5,086 5,092 5,137 5,154 | +9,7694 +9,9370 +9,9717 +9,9740 +9,7259 | +8,6187 +9,1099 +9,1929 +9,2029 +8,4233 | +0,7015 ,7064 ,7069 ,7107 ,7121 | +9,9859 ,9855 ,9855 ,9852 ,9851 | 304 309 311 317 314 | -,001 +,008 +,040 +,005 +,012 | - ,16 - ,11 - ,12 - ,11 ,00 |
| 1331 1332 1333 1334 1335 | 2 2 3 4 2 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 5,161 5,171 5,171 5,227 5,266 | +9,5289 -8,7708 +0,0052 +9,8692 +0,0241 | -8,3992 -9,0740 +9,2869 +8,9541 +9,3673 | ,7135 ,7135 ,7182 | +9,9851 ,9850 ,9850 ,9847 ,9845 | 313 310 319 320 6 | +,009 +,011 +,004 +,024 +,008 | - ,15 + ,02 - ,01 - ,25 + ,06 |
| 1336 1337 1338 1339 1340 | 2 4 4 2 3 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 5,283 5,345 5,424 5,440 5,458 | +9,7642 +8,8261 +9,9740 +9,9694 +9,9345 | +8,6208 -8,9723 +9,2303 +9,2196 +9,1373 | +0,7229 ,7280 ,7343 ,7356 ,7370 | +9,9844 ,9840 ,9835 ,9834 ,9833 | 322 324 11 13 14 | -,001 +,012 -,008 -,019 +,006 | - ,06 - ,11 - ,05 - ,18 - ,13 |
| 1341 1342 1343 1344 1345 | 4 4 4 4 | $\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$ | 5,457 5,497 5,525 5,609 5,609 | +9,7497 $+8,8195$ $+8,4150$ $+9,0531$ $+9,9117$ | +8,5676 -8,9861 -9,0292 -8,9407 +9,0959 | ,740 1 ,7423 | +9,9833 ,9830 ,9828 ,9823 ,9823 | 9 10 12 18 23 | +,015 -,004 +,007 +,006 +,009 | + ,41 - ,11 + ,02 + ,02 - ,02 |
| 1346 1347 1348 1349 1350 | 4 4 3 3 3 | $ \begin{array}{r} +29 & 37 & 17,05 \\ -20 & 3 & 50,20 \\ + & 7 & 29 & 19,88 \\ -15 & 7 & 1,02 \\ + & 9 & 2 & 27,59 \end{array} $ | 5,631 5,693 5,731 5,743 5,788 | +9,9299 +8,8976 +9,7443 +9,2279 +9,7634 | +9,1427 -8,9888 +8,5720 -8,8730 +8,6572 | ,7553 ,7583 ,7591 | +9,9821 ,9817 ,9815 ,9814 ,9811 | | +,013 +,008 +,001 +,027 | - ,12 - ,24 - ,00 - ,11 + ,09 |

| No. | Star's name and Mag. | No. | Right Ascension | Annual Preces- | | Logari | thms of | |
|--------------------------------------|---|-----------------------|--|--|---|---|---|---|
| | | Obs. | Jan. 1, 1836. | sion. | a | ь | С | d |
| 1351 1352 1353 1354 1355 | Sagittarii 8.9 Antinoi 9 7 Aquilæ 9.10 7.8 | | h. m. s. 19 7 30,31 7 42,02 7 45,86 8 16,54 8 34,36 | s. +3,568 3,134 3,322 2,864 2,927 | +8,3191 ,2896 ,2982 ,2982 ,2970 | —8,8355 ,8051 ,8129 ,8097 ,8067 | +0,5524 ,4961 ,5214 ,4570 ,4664 | -7,8802 -6,9986 -7,5885 +7,4949 +7,3385 |
| 1356 1357 1358 1359 1360 | Antinoi 8 Sagittarii 7.8 Antinoi 8 Aquilæ 10 Sagittarii 7.8 | 2 1 | 8 48,74 8 54,89 9 5,07 9 13,43 9 35,87 | 3,506 3,333 2,864 | +8,2960 ,3210 ,3072 ,3039 ,4109 | 8,8039 ,8280 ,8129 ,8091 ,9131 | ,5448 ,5228 | +5,8737 -7,8325 -7,6154 +7,5014 -8,2101 |
| 1361 1362 1363 1364 1365 | Antinoi 8 Aquilæ 7 Sagittarii 7.8 Lyræ 7.8 Aquilæ 7.8 | 3 | 9 54,64 10 17,07 10 43,41 12 2,20 12 12,85 | 3,321 2,960 3,648 2,344 2,969 | +8,3112 ,3064 ,3490 ,3761 ,3175 | —8,8116 ,8046 ,8437 ,8630 ,8032 | +0,5213 ,4713 ,5620 ,3700 ,4726 | -7,6002 +7,2335 -7,9667 +8,0706 +7,2106 |
| 1366 1367 1368 1369 1370 | Aquilæ 8 — 8.9 Antinoi 7.8 Sagittarii 8 Antinoi 1.10 | $\frac{2}{2}$ | 12 25,03 12 36,28 12 38,13 13 0,34 13 25,30 | 3,009 2,927 3,101 3,513 3,209 | +8,3178 ,3212 ,3190 ,3464 ,3258 | 8,8022 ,8043 ,8017 ,8265 ,8038 | +0,4784 ,4664 ,4915 ,5457 ,5064 | +6,9828 +7,3650 -6,7272 -7,8659 -7,3684 |
| 1371 1372 1373 1374 1375 | Draconis 7.8 Anseris 8 Antinoi 8 — 7 Draconis 9 | 2 3 2 3 1 | 13 47,56 13 54,27 13 57,78 14 6,61 14 32,10 | 0,352 2,559 3,066 3,314 0,573 | +8,6980 ,3583 ,3261 ,3353 ,6732 | —9,1748 8,8333 8,8008 8,8087 9,1449 | +9,5465 0,4081 0,4866 0,5203 9,7581 | +8,6553 +7,9302 +5,4888 -7,6159 +8,6235 |
| 1376 1377 1378 1379 1380 | Sagittarii 8 Aquilæ 8 Antinoi 8 Sagittarii 7.8 Aquilæ 8 | 2 2 3 3 2 | 14 54,67 14 59,66 15 25,15 16 5,62 16 35,76 | 3,509 2,883 3,283 3,402 3,034 | +8,3567 ,3367 ,3405 ,3531 ,3411 | 8,8251 ,8047 ,8060 ,8141 ,7992 | | +7,4961 |
| 1381 1382 1383 1384 1385 | Antinoi 8.9 — 8 Anseris 7 Cygni 7 Aquilæ 8.9 | 3 3 2 | 16 49,29 17 6,15 17 33,99 18 12,65 18 51,30 | 3,157 3,121 2,618 2,148 3,119 | ,3442 ,3720 ,4420 | -8,8000 ,7991 ,8244 ,8909 ,7979 | +0,4993 ,4943 ,4180 ,3320 ,4940 | -6,9631 |
| 1386 1387 1388 1389 1390 | Cygni 7.8 Anseris 7 Sagittarii 8 Cygni 7.8 Aquilæ 6.7 | 2 2 3 | 19 9,43 19 18,18 19 59,08 20 3,56 20 6,83 | 2,489 2,621 3,566 2,161 3,010 | +8,3963 ,3810 ,3911 ,4503 ,3601 | —8,8392 ,8231 ,8285 ,8881 ,7971 | +0,3960 ,4185 ,5522 ,3346 ,4786 | +7,9063 $ -7,9581 $ $ +8,2181 $ |
| 1391 1392 1393 1394 1395 | Cygni 7.8 | 3 | 20 14,44 21 47,00 22 29,48 22 48,47 23 | 1,576 2,152 2,414 1,091 1,587 | +8,5510 ,4610 ,4241 ,6448 ,5612 | —8,9880 8,8887 8,8475 9,0670 8,9854 | +0,1976 ,3328 ,3827 ,0378 ,2006 | |

| No. | No. Obs. | Declination Jan. 1, 1836. | Annual Preces- | | Logarith | nms of | anagamatan kanada kanada kanada kanada kanada kanada kanada kanada kanada kanada kanada kanada kanada kanada k | zi No. | Annual | Р. М. |
|--------------------------------------|-----------------------|--|--|---|---|---|--|---------------------------------|---|---|
| | O Dis. | | sion. | a' | <i>b</i> ′ | c' | $\left \begin{array}{c} d' \end{array} \right $ | Piazzi | A. R. | Decn. |
| 1351 1352 1353 1354 1355 | 33332 | -21 21 19,05 - 2 56 49,60 -11 15 20,23 + 9 2 40,16 + 6 18 48,07 | +5,838 5,849 5,860 5,899 5,921 | +8,7482 +9,5843 +9,3802 +9,7627 +9,7292 | -9,0255 -8,1742 -8,7598 +8,6655 +8,5119 | +0,7662 ,7671 ,7679 ,7708 ,7724 | +9,9807 ,9807 ,9806 ,9803 ,9802 | 32 34 33 40 44 | s. +,012 +,017 +,027 +,008 +,014 | -,04 +,01 -,05 -,07 -,03 |
| 1356 1357 1358 1359 1360 | 2 2 2 2 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 5,944 5,955 5,972 5,977 6,016 | +9,6415 +9,0000 +9,3636 +9,7627 —9,4216 | +7,0498 $-8,9844$ $-8,7824$ $+8,6720$ $-9,2765$ | +0,7741 ,7749 ,7761 ,7765 ,7793 | +9,9800 ,9799 ,9798 ,9798 ,9795 | 46 43 47 49 48 | +,003 +,022 +,001 +,018 +,001 | - ,17 - ,01 - ,05 - ,05 |
| 1361 1362 1363 1364 1365 | 3 3 2 3 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 6,038 6,066 6,111 6,211 6,227 | +9,3820 +9,7101 +5,8451 +9,9289 +9,7050 | -8,7679 +8,4080 -9,1018 +9,1857 +8,3853 | +0,7809 ,7829 ,7861 ,7931 ,7943 | +9,9793 ,9791 ,9788 ,9781 ,9780 | 53 58 59 78 75 | +,015 +,019 +,030 -,002 +,013 | - ,01 - ,17 - ,26 - ,16 - ,28 |
| 1366 1367 1368 1369 1370 | 3 3 3 3 2 | $\begin{array}{c} + \ 2 \ 38 \ 17,51 \\ + \ 6 \ 20 \ 55,84 \\ - \ 1 \ 28 \ 36,12 \\ -19 \ 19 \ 36,08 \\ - \ 6 \ 21 \ 4,95 \end{array}$ | 6,244 6,260 6,266 6,299 6,326 | +9,6785 +9,7292 +9,6128 +8,9777 +9,5132 | +8,1584 +8,5384 -7,9032 -9,0168 -8,5418 | +0,7954 ,7966 ,7970 ,7993 ,8012 | +9,9778 ,9777 ,9777 ,9774 ,9772 | 76 80 79 82 83 | +,007 -,003 +,017 +,020 +,006 | - ,07 - ,08 - ,09 + ,04 - ,26 |
| 1371 1372 1373 1374 1375 | 2 2 3 3 | +64 58 48,48 $+21$ 53 $+$ 0 4 28,05 -11 0 38,73 $+63$ 5 52,99 | 6,343 6,365 6,373 6,388 6,409 | +0,0183 +9,8791 +9,6385 +9,3892 +0,0174 | +9,4575 $+9,0735$ $+6,6649$ $-8,7840$ $+9,4551$ | +0,8023 ,8038 ,8043 ,8053 ,8068 | +9,9771 ,9769 ,9769 ,9767 ,9766 | 98 88 87 86 101 | +,015 +,014 +,012 +,013 +,019 | - ,07 - ,09 - ,10 - ,01 |
| 1376 1377 1378 1379 1380 | 3 1 3 2 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 6,454 6,459 6,492 6,553 6,591 | +8,9912 +9,7528 +9,4314 +9,2480 +9,6618 | -9,0256 +8,6676 -8,7340 -8,9227 +7,9397 | +0,8098 ,8102 ,8124 ,8164 ,8190 | +9,9762 ,9762 ,9759 ,9754 ,9751 | 92 95 97 100 106 | +,002 +,004 +,018 +,013 +,014 | - ,01 - ,10 - ,24 - ,13 + ,06 |
| 1381 1382 1383 1384 1385 | 4 5 3 4 3 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 6,608 6,636 6,669 6,718 6,778 | +9,5647 +9,5966 +9,8609 +9,9571 +9,5977 | -8,3671 -8,1388 +9,0484 +9,2960 -8,1389 | +0,8201 ,8219 ,8240 ,8272 ,8311 | +9,9750 ,9748 ,9745 ,9741 ,9736 | 109 111 116 121 122 | -,011 +,014 +,014 -,001 +,013 | - ,16 - ,11 - ,03 + ,08 - ,09 |
| 1386 1387 1388 1389 1390 | 3 1 2 3 2 | +24 43 49,73 +19 34 11,94 -21 40 4,21 +35 51 45,21 + 2 36 9,55 | 6,800 6,811 6,877 6,872 6,882 | +9,8965 +9,8603 +8,7559 +9,9552 +9,6785 | +9,1524 $+9,0565$ $-9,1024$ $+9,3029$ $+8,1952$ | +0,8325 ,8332 ,8374 ,8371 ,8377 | +9,9734 ,9733 ,9728 ,9728 ,9727 | 127 128 130 134 133 | +,007 +,002 +,005 +,019 +,003 | - ,14 - ,24 - ,01 - ,10 - ,09 |
| 1391 1392 1393 1394 1395 | 3 4 3 4 2 | +49 55 10,35 +36 11 58,72 +27 35 40,94 +57 41 55,92 +49 48 40,10 | 6,882 7,014 7,074 7,090 7,063 | +9,9992 +9,9557 +9,9133 +0,0099 +9,9978 | +9,4196 +9,3153 +9,2135 +9,4757 +9,4301 | +0,8377 ,8460 ,8497 ,8507 ,8490 | +9,9727 ,9716 ,9711 ,9710 ,9712 | 140 149 153 156 154 | +,012 ,000 +,007 +,004 | ,26 ,00 ,08 ,03 ,10 |

| No. | Star's name and Mag. | No. | Ascension | Annual Preces- | | Logarit | hms of | |
|--------------------------------------|--|--|---|--|---|--|---|---|
| | | | Jan. 1, 1836. | sion. | a | b | c | d |
| 1396 1397 1398 1399 1400 | Sagittarii 8 ALBIREO seq. 7 Cygni 7.8 ———————————————————————————————————— | 3 | h. m. s. 19 24 1,95 24 8,80 24 36,73 24 50,84 25 30,31 | s. +3,496 2,415 1,376 2,165 2,408 | +8,4037 ,4321 ,6088 ,4746 ,4402 | | +0,5436 ,3829 ,1386 ,3355 ,3817 | -7,9153 +8,0985 +8,5147 +8,2428 +8,1108 |
| 1401 1402 1403 1404 1405 | Anseris 8 Antinoi 8 Aquilæ 8 Cygni 7.8 | 2 4 3 1 | 25 53,61 26 47,70 26 52,84 27 10,86 27 | 2,599 3,302 2,982 1,243 1,280 | +8,4172 ,4004 ,3941 ,6442 ,6388 | 8,8214 8,7995 8,7928 9,0418 9,0357 | +0,4148 ,5188 ,4745 ,0945 ,1072 | +7,9649 -7,6698 +7,2341 +8,5618 +8,5535 |
| 1406 1407 1408 1409 1410 | Aquilæ 7.8 Antinoi 7.8 — 8 Aquilæ 8 | | 27 36,81 27 37,46 27 38,36 27 47,18 28 46,70 | 3,073 3,070 3,136 3,304 2,912 | +8,3965 ,3965 ,3975 ,4052 ,4056 | -8,7912 ,7912 ,7918 ,7988 ,7937 | +0,4874 ,4871 ,4964 ,5190 ,4642 | -6,0064 -5,6384 -7,1375 -7,6773 +7,5036 |
| 1411 1412 1413 1414 1415 | Antinoi 8 | 1 3 3 3 2 | 28 51,22 29 8,40 29 46,99 29 58,31 30 4,70 | 3,086 3,078 3,086 3,068 2,208 | +8,4025 ,4037 ,4065 ,4074 ,4935 | —8,7903 ,7901 ,7896 ,7894 ,8752 | +0,4894 ,4883 ,4894 ,4869 ,3440 | -6,5738 $-6,3298$ $-6,5778$ $-4,8711$ $+8,2505$ |
| 1416 1417 1418 1419 1420 | Cygni 6 Sagittarii 7.8 ———————————————————————————————————— | 2 2 2 2 2 | 30 5,05 30 30,22 30 30,85 30 39,02 30 39,41 | 1,550 3,539 3,608 2,937 2,911 | +8,6074 ,4397 ,4483 ,4128 ,4142 | -8,9895 ,8186 ,8272 ,7913 ,7923 | -+0,1903 ,5489 ,5573 ,4679 ,4640 | +8,4927 $-7,9924$ $-8,0525$ $+7,4368$ $+7,5152$ |
| 1421 1422 1423 1424 1425 | Aquilæ 7.8 Antinoi 9 — 8 Draconis 7.8 Aquilæ 8 | $\begin{vmatrix} 1 \\ 2 \end{vmatrix}$ | 30 51,67 30 53,80 31 12,05 31 37,33 31 42,41 | 3,107 | ,4180 | 8,7889 8,7930 | +0,4481 $+0,4923$ $+0,5116$ $-9,2304$ $+0,4634$ | +7,7388 $-6,9169$ $-7,5792$ $+8,8340$ $+7,5327$ |
| 1426 1427 1428 1429 1430 | Aquilæ 8 Sagittarii 7.8 — 8 Sagittæ 9 — 8 | 3 1 3 | 32 1,29 32 44,40 32 50,89 33 38,64 34 5,55 | 2,680 2,678 | ,5017 ,4409 ,4446 | -8,7912 ,8686 ,8078 ,8073 ,8074 | +0,4643 ,5906 ,4281 ,4278 ,4272 | +7,5182 -8,2495 +7,9198 +7,9255 +7,9328 |
| 1431 1432 1433 1434 1435 | Antinoi 8.9 Cygni 7.8 Antinoi 8 Aquilæ 7.8 Antinoi 8 | 3 3 | 34 9,09 34 18,09 34 27,52 34 50,35 35 | 2,331 2,970 | ,4934 ,4286 ,4332 | -8,7942 ,8531 ,7872 ,7897 ,7937 | ,3675 ,4728 | -7,7167 +8,2057 +7,3296 +7,5767 -7,7437 |
| 1436 1437 1438 1439 1440 | 8.9 | 4 | 35 18,86 35 28,19 36 17,69 36 25,08 36 46,72 | 2,680 2,914 2,809 | ,4526 ,4386 ,4454 | -8,8069 ,8047 ,7877 ,7937 ,7885 | ,4281 ,4645 ,4485 | +7,9432 +7,9332 +7,5377 +7,7632 +7,6038 |

| No. | No. Obs. | Declination Jan. 1, 1836. | Annual Preces- | | Logarithr | ns of | | zi No. | Annual | P. M. |
|--------------------------------------|-------------|--|--|---|--|---|---|---------------------------------|---|---|
| | | | sion. | a' | <i>b'</i> | c' | d' | Piazzi | A. R. | Decn. |
| 1396 1397 1398 1399 1400 | 4 4 3 3 | -18 57 33,53 +27 37 32,23 +53 38 0,16 +35 53 16,07 +27 55 18,17 | +7,205 7,205 7,243 7,264 7,319 | +9,0334 +9,9127 +0,0030 +9,9533 +9,9133 | -9,0672 +9,2220 +9,4638 +9,3274 +9,2331 | +0,8576 ,8576 ,8599 ,8612 ,8644 | +9,9700 ,9700 ,9696 ,9694 ,9689 | 155 162 167 164 169 | s. +,026 +,012 +,022 +,010 +,009 | ,11 ,03 ,02 +- ,02 ,02 |
| 1401 1402 1403 1404 1405 | 3 3 2 1 | +20 39 23,98 -10 43 10,79 + 3 57 32,84 +55 47 25,36 +55 14 27,35 | 7,351 7,427 7,433 7,449 7,460 | +9,8645 +9,4048 +9,6964 +0,0052 +0,0043 | +9,1121 -8,8383 +8,4091 +9,4877 +9,4854 | +0,8664 ,8708 ,8711 ,8721 ,8727 | +9,9686 ,9679 ,9679 ,9677 ,9676 | 172 177 178 189 190 | +,005 +,012 +,011 +,013 | - ,08 - ,01 - ,15 - ,01 - ,24 |
| 1406 1407 1408 1409 1410 | 2 3 2 2 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 7,492 7,492 7,498 7,508 7,590 | +9,6345 +9,6345 +9,5832 +9,4031 +9,7380 | -7,1825 -6,8145 -8,3129 -8,8456 +8,6763 | +0,8746 ,8746 ,8749 ,8755 ,8802 | +9,9673 ,9673 ,9673 ,9672 ,9664 | 182 183 181 185 195 | +,019 +,011 +,016 -,010 +,006 | - ,39 - ,18 - ,12 - ,37 + ,03 |
| 1411 1412 1413 1414 1415 | 4 3 3 3 1 | - 0 51 9,96 - 0 29 32,64 - 0 51 11,69 - 0 1 17,05 +34 51 6,91 | 7,595 7,616 7,665 7,681 7,686 | +9,6243 +9,6304 +9,6232 +9,6375 +9,9464 | -7,7498 -7,5059 -7,7538 -6,0472 +9,3407 | +0,8805 ,8817 ,8845 ,8854 ,8857 | +9,9663 ,9661 ,9657 ,9655 ,9655 | 194 198 200 202 207 | +,005 +,003 +,015 +,015 +,008 | ,04 ,08 ,04 ,16 ,12 |
| 1416 1417 1418 1419 1420 | 2 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 7,681 7,730 7,730 7,735 7,740 | +9,9961 +8,8808 +8,4150 +9,7234 +9,7372 | +9,4732 -9,1389 -9,1903 +8,6105 +8,6878 | +0,8854 ,8881 ,8881 ,8884 ,8887 | +9,9655 ,9650 ,9650 ,9650 ,9649 | 211 205 204 208 209 | +,017 +,007 +,003 +,016 +,008 | - ,14 - ,15 + ,02 - ,01 |
| 1421 1422 1423 1424 1425 | 1 2 2 | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 7,751 7,756 7,789 7,800 7,821 | +9,6074 +9,4698 | $ \begin{array}{r} -8,0927 \\ -8,7506 \\ +9,5609 \end{array} $ | ,8897 ,8915 | +9,9648 ,9648 ,9644 ,9643 ,9641 | 212 210 213 227 216 | +,020 +,014 +,012 -,015 +,011 | - ,05 - ,10 - ,17 - ,09 - ,01 |
| 1426 1427 1428 1429 1430 | 3 2 3 | + 7 11 44,72 -34 1 28,60 +17 31 29,96 +17 37 4,56 +17 48 56,65 | 7,848 7,912 7,912 7,976 8,013 | +9,7372 -9,1875 +9,8395 +9,8395 +9,8414 | +8,6908 -9,3441 +9,0752 +9,0808 +9,0875 | ,8983 ,9018 | +9,9639 ,9632 ,9632 ,9626 ,9622 | 217 218 225 228 234 | +,008 +,017 +,010 +,004 +,011 | — ,05 — ,06 — ,17 — ,07 — ,20 |
| 1431 1432 1433 1434 1435 | 3 2 4 | -11 3 14,51 +31 1 48,76 + 4 34 21,08 + 7 59 55,34 -11 34 44,47 | 8,019 8,024 8,037 8,072 8,141 | | +9,3147 $+8,5043$ $+8,7486$ | ,9044 ,9051 ,9070 | +9,9621 ,9621 ,9619 ,9616 ,9608 | 231 239 235 241 245 | +,016 +,009 | - ,19 + ,03 - ,09 - ,09 - ,03 |
| 1436 1437 1438 1439 1440 | 2 2 3 | +18 0 16,91 +17 35 10,47 + 7 12 3,26 +11 59 14,10 + 8 20 20,71 | 8,126 8,190 8,200 | +9,8426 +9,8395 +9,7372 +9,7882 +9,7490 | +9,0884 +8,7103 +8,9297 | ,9099 ,9133 ,9138 | ,9610 ,9603 ,9602 | 248 250 | +,004 +,007 +,004 | — ,05 — ,03 + ,06 |

| No. | Star's name and I | Mag. | No. Obs. | | Right scension | Annual Preces- | i | Logarit | hms of | |
|--------------------------------------|--|---------------------------------|-----------------------|----------|--|-------------------------------|---|--|---|--|
| | | | 003. | Jan | . 1, 1836. | sion. | a | <i>b</i> | c | d |
| 1441 1442 1443 1444 1445 | Aquilæ 16 c Cygni seq. Aquilæ Sagittæ | 7 7 7 7.8 9 | 2 2 3 3 2 | h. 19 | m. s. 36 54,91 37 29,96 37 58,97 38 46,42 38 47,59 | 1,610 2,121 2,852 | +8,4451 ,6333 ,5450 ,4522 ,4664 | —8,7911 ,9766 ,8859 ,7889 ,8030 | +0,4536 ,2068 ,3265 ,4551 ,4285 | +7,7071 +8,5185 +8,3337 +7,6948 +7,9477 |
| 1446 1447 1448 1449 1450 | Sagittarii Cygni seq. Aquilæ Sagittæ Cygni | 7.8 7.8 7 7.8 7.8 | 3 3 2 2 | | 39 18,66 39 39,68 39 41,28 39 43,70 40 18,48 | 2,198 2,953 2,654 | +8,5786 ,5392 ,4512 ,4731 ,7110 | | +0,6200 ,3402 ,4703 ,4239 ,0895 | 8,4062 +8,3052 +7,4235 +7,9809 +8,6329 |
| 1451 1452 1453 1454 1455 | Sagittæ Antinoi Cygni Sagittarii Cygni | 7.8 7.8 7.8 7.8 7.8 | | | 41 22,5 41 28,5 41 25,0 42 2,8 43 25,9 | 7 3,014 5 1,313 2 3,498 | +8,4825 ,4570 ,7023 ,4849 ,5398 | 8,8063 8,7801 9,0264 8,8051 8,8538 | +0,4204 ,4791 ,1183 ,5438 ,3600 | +8,0128 +7,1053 +8,6181 -8,0109 +8,2745 |
| 1456 1457 1458 1459 1460 | Vulpeculæ Aquilæ Sagittæ | 7 8 8 7.8 7.8 | | | 43 39,4 44 26,5 44 37,1 45 20,5 45 35,0 | 2,858 5 2,692 5 2,671 | ,4893 ,4943 | —8,8038 ,7838 ,7972 ,7988 ,7963 | +0,4214 ,4561 ,4301 ,4267 ,4302 | +7,7124 +7,9658 +7,9920 |
| 1461 1462 1463 1464 1465 | 57 Aquilæ seq. Vulpeculæ seq. Aquilæ Vulpeculæ | 7 8 7 7.8 7 | 3 1 2 3 2 | | 45 45,2 45 57,4 46 11,2 47 27,9 47 33,5 | 2,831 1 2,635 4 2,825 | ,4823 ,5017 ,4884 | 8,7808 ,7839 ,8021 ,7830 ,8130 | +0,5119 ,4519 ,4208 ,4510 ,4048 | +7,7706 +8,0340 +7,7901 |
| 1466 1467 1468 1469 1470 | Aquilæ | 8.9 8 8 8.9 8 | 3 2 | | 48 39,8 50 5,3 50 10,0 50 10,5 50 18,7 | 9 2,652 2 2,838 6 2,834 | ,4978 ,4981 | ,7969 | +0,4304 ,4236 ,4530 ,4524 ,4334 | +7,7777 +7,7851 |
| 1471 1472 1473 1474 1475 | Sagittarii Aquilæ Sagittarii | 7.8 9 8 8 | 3 3 3 3 3 | | 50 34,6 50 45,0 50 51,5 51 3,6 51 5,9 | 9 3,529 5 2,940 1 3,571 | ,5226 ,4947 ,5293 | ,8067 | +0,4643 ,5476 ,4683 ,5528 ,4525 | -8,0825 +7,5258 -8,1224 |
| 1476 1477 1478 1479 1480 | Sagittarii | 8 8.9 7.8 8 | 3 | | 52 13,2 52 52,8 52 55,7 53 8,4 53 14,9 | 8 2,912 4 2,924 0 3,997 | 5031 5027 6057 | ,7725 ,7719 ,8737 | ,4642 ,4660 ,6017 | +7,6216 |
| 1481 1482 1483 1484 1485 | Antinoi Capricorni | 8 8 8 8 6.7 | 3 3 3 3 3 | | 53 45,7 55 2,9 56 1,7 56 26,8 56 32,7 | 8 3,075 1 3,421 4 3,400 | ,5067 ,5296 ,5286 | ,7666 ,7844 ,7819 | ,4878 ,5341 ,531 <i>8</i> | $ \begin{array}{c c} -6,3129 \\ -7,9910 \\ -7,9654 \end{array} $ |

| No. | No. Obs. | Declination Jan. 1, 1836. | Annual Preces- | | Logarith | nms of | | zzi No. | Annual | P. M. |
|--------------------------------------|-----------------------|---|---|---|---|---|---|---------------------------------|---|---|
| | | | sion. | a' | b' | c' | d' | Piazzi | A. R. | Decn. |
| 1441 1442 1443 1444 1445 | 3 4 3 2 | +10 31 22,87 +50 8 +37 55 57,69 +10 3 49,03 +17 37 48,45 | + 8,237 8,280 8,317 8,386 8,386 | +9,7738 +9,9899 +9,9547 +9,7671 +9,8376 | +8,8758 +9,5013 +9,4067 +8,8641 +9,1029 | +0,9158 ,9180 ,9200 ,9236 ,9236 | +9,9598 ,9594 ,9590 ,9582 ,9582 | 253 262 263 268 270 | s. -,005 +,003 +,005 +,004 +,017 | + ,13 - ,04 - ,22 - ,08 |
| 1446 | 32333 | -42 15 44,75 | 8,434 | —9,4609 | -9,4517 | +0,9260 | +9,9577 | 266 | -,003 | + ,01 |
| 1447 | | +35 41 33,04 | 8,449 | +9,9455 | +9,3909 | ,9268 | ,9575 | 277 | +,008 | - ,13 |
| 1448 | | + 5 22 55,40 | 8,460 | +9,7143 | +8,5977 | ,9274 | ,9594 | 272 | ,000 | - ,14 |
| 1449 | | +18 47 0,37 | 8,460 | +9,8482 | +9,1332 | ,9274 | ,9594 | 274 | +,039 | - ,04 |
| 1450 | | +56 38 55,38 | 8,497 | +9,9978 | +9,5492 | ,9293 | ,9570 | 284 | +,024 | - ,03 |
| 1451 | 3 | +19 48 36,97 | 8,592 | +9,8537 | +9,1623 | +0,9341 | +9,9559 | 287 | +,023 | - ,17 |
| 1452 | 3 | + 2 32 53,05 | 8,602 | +9,6758 | +8,2809 | ,9346 | ,9558 | 285 | +,007 | ,00 |
| 1453 | 2 | +55 26 56,96 | 8,587 | +9,9956 | +9,5477 | ,9338 | ,9560 | 292 | +,025 | - ,15 |
| 1454 | 4 | -19 37 21,44 | 8,650 | +9,0253 | -9,1610 | ,9370 | ,9552 | 288 | +,006 | - ,13 |
| 1455 | 2 | +32 52 1,52 | 8,750 | +9,9304 | +9,3748 | ,9420 | ,9541 | 300 | +,036 | - ,16 |
| 1456 | 3 | +19 37 34,43 | 8,771 | +9,8519 | +9,1674 | +0,9430 | +9,9538 | 301 | +,020 | - ,11 |
| 1457 | 4 | + 9 56 5,37 | 8,839 | +9,7649 | +8,8819 | ,9464 | ,9530 | 307 | ,004 | - ,19 |
| 1458 | 1 | +17 25 32,54 | 8,850 | +9,8344 | +9,1215 | ,9469 | ,9529 | 308 | +,018 | - ,10 |
| 1459 | 3 | +18 19 23,30 | 8,907 | +9,8414 | +9,1454 | ,9497 | ,9522 | 312 | +,015 | + ,02 |
| 1460 | 7 | +17 23 50,95 | 8,922 | +9,8338 | +9,1242 | ,9505 | ,9520 | 315 | +,019 | + ,02 |
| 1461 | 2 | - 8 39 25,63 | 8,943 | +9,4683 | -8,8268 | +0,9515 | +9,9520 | 314 | ,013 | - ,04 |
| 1462 | 3 | +11 11 19,15 | 8,954 | +9,7781 | +8,9384 | ,9520 | ,9517 | 317 | +,017 | - ,03 |
| 1463 | 2 | +19 54 16,05 | 8,975 | +9,8531 | +9,1833 | ,9530 | ,9514 | 321 | ,001 | - ,17 |
| 1464 | 4 | +11 31 58,47 | 9,073 | +9,7810 | +8,9573 | ,9578 | ,9502 | 326 | +,005 | - ,10 |
| 1465 | 4 | +23 53 40,00 | 9,082 | +9,8797 | +9,2637 | ,9580 | ,9501 | 327 | +,012 | - ,03 |
| 1466 | 4 | +17 27 26,66 | 9,162 | +9,8331 | +9,1373 | +0,9620 | +9,9491 | 335 | +,015 | - ,06 |
| 1467 | 3 | +19 21 47,35 | 9,276 | +9,8470 | +9,1860 | ,9673 | ,9477 | 338 | +,004 | - ,08 |
| 1468 | 4 | +10 58 45,28 | 9,286 | +9,7745 | +8,9458 | ,9678 | ,9475 | 336 | +,002 | + ,02 |
| 1469 | 5 | +11 9 22,42 | 9,286 | +9,7767 | +8,9529 | ,9678 | ,9475 | 337 | +,005 | + ,13 |
| 1470 | 3 | +16 42 40,76 | 9,296 | +9,8267 | +9,1252 | ,9693 | ,9474 | 341 | +,010 | - ,04 |
| 1471 1472 1473 1474 1475 | 3 3 3 2 | + 7 28 56,96 -21 17 50,78 + 6 9 10,88 -23 4 41,18 +11 7 34,62 | 9,317 9,333 9,338 9,358 9,358 | +9,7364 +8,9191 +9,7210 +8,7243 +9,7760 | +8,7820 -9,2279 +8,6994 9,2623 +8,9550 | +0,9693 ,9700 ,9702 ,9712 ,9712 | +9,9471 ,9469 ,9469 ,9466 ,9471 | 345 339 348 346 350 | +,012 +,006 +,006 +,006 +,005 | + ,01 + ,04 - ,05 - ,03 + ,07 |
| 1476 | 3 | + 6 50 41,90 | 9,441 | +9,7292 | +8,7496 | +0,9750 | +9,9455 | 357 | +,010 | + ,01 |
| 1477 | 4 | + 7 32 9,75 | 9,492 | +9,7372 | +8,7940 | ,9774 | ,9448 | 363 | +,005 | ,04 |
| 1478 | 3 | + 6 57 58,95 | 9,497 | +9,7308 | +8,7594 | ,9776 | ,9448 | 364 | +,011 | + ,02 |
| 1479 | 2 | -38 18 36,97 | 9,518 | -9,3096 | -9,4688 | ,9785 | ,9445 | 359 | -,009 | ,38 |
| 1480 | 4 | +21 59 44,22 | 9,518 | +9,8645 | +9,2501 | ,9785 | ,9445 | 368 | +,002 | + ,07 |
| 1481 1482 1483 1484 1485 | 4 4 4 5 2 | -18 41 33,91 - 0 21 51,99 -16 49 53,26 -15 53 0,90 +16 39 48,37 | 9,768 | +9,1139 +9,6314 +9,2095 +9,2504 +9,8241 | —9,1843 —7,4890 —9,1481 —9,1246 +9,1461 | | +9,9439 ,9427 ,9415 ,9411 ,9410 | 367 376 381 387 392 | +,005 +,018 +,010 +,006 +,011 | + ,07 - ,13 - ,07 - ,04 - ,20 |

| No. | Star's name and | Mag. | No. Obs. | \mathbf{A} s | Right scension | Annual Preces- | | Logarit | thms of | |
|--------------------------------------|--|---------------------------|-----------------------|----------------|---|--|---|--|--|---|
| | | | ODS. | Jan | . 1, 1836. | sion. | а | ь | с | d |
| 1486 1487 1488 1489 1490 | Antinoi Sagittarii Sagittæ Sagittarii Capricorni | 9 7.8 7 8 8 | | h. 19 | m s. 56 33,87 56 42,11 56 50,03 56 55,35 57 37,78 | s. +3,212 3,491 2,705 3,542 3,345 | +8,5153 ,5393 ,5329 ,5463 ,5278 | 8,7682 ,7916 ,7847 ,7978 ,7757 | +0,5068, ,5429 ,4322 ,5492 ,5244 | 7,6032 8,0719 +8,0058 8,1221 7,8922 |
| 1491 1492 1493 1494 1495 | Capricorni Antinoi Vulpeculæ Antinoi Sagittæ | 7.8 7.8 8 7.8 | 2 1 2 | | 57 44,10 58 1,66 58 6,43 58 40,46 59 22,42 | 3,334 3,260 2,570 3,095 2,727 | +8,5271 ,5230 ,5538 ,5193 ,5394 | ,7628 | ,5132 ,4099 ,4907 | -7,8759 -7,7345 +8, 9 492 -6,8860 +7, 9 906 |
| 1496 1497 1498 1499 1500 | Antinoi Vulpeculæ Sagittæ Vulpeculæ | 8 8 8 7.8 8.9 | 3 2 3 3 3 | 20 | 59 27,08 0 1,52 0 1,77 1 4,91 1 28,43 | 3,028 2,633 2,724 2,654 2,622 | +8,5218 ,5523 ,5417 ,5533 ,5584 | 8,7621 ,7900 ,7797 ,7864 ,7900 | ,4204 ,4352 ,4239 | +7,0573 +8,0993 +7,9963 +8,0821 +8,1157 |
| 1501 1502 1503 1504 1505 | Aquilæ Antinoi Vulpeculæ Antinoi | 7 8.9 7 7 | 2 3 2 2 2 | | 1 39,96 1 45,32 1 50,65 2 16,26 3 21,54 | 3,202 2,511 3,256 | ,5750 ,5366 | ,8049 ,7645 | ,5054 ,3998 ,5127 | -7,594' |
| 1506 1507 1508 1509 1510 | Sagittæ Antinoi Aquilæ Draconis | 7 8 7 7.8 7.8 | | | 2 2 51,22 2 53,68 3 5,79 | 3,079 | ,5357 ,5328 ,5357 | 8,7609 8,7580 8,7601 | 0,5053 0,4884 0,4698 | -7,597; -6,540 +7,546 |
| 1511 1512 1513 1514 1515 | | 8 8 7 7.8 | 3 3 2 3 2 | | 3 22,14 3 25,17 3 39,99 3 44,69 4 5,30 | 3,074 2,746 3,297 | ,5345 ,5516 ,5440 | ,7574 ,7737 ,7655 | ,4877 ,4387 ,5181 | $ \begin{array}{r} -6,228 \\ +7,983 \\ -7,836 \end{array} $ |
| 1516 1517 1518 1519 1520 | | 8 7.5 8 8 7.5 | 2 2 | 1 | 4 47,67 5 5 15,47 5 20,03 5 48,68 | 2,505 2,971 2,749 | ,5868 ,5417 ,5567 | ,8029 ,7569 ,7717 | ,3988 ,4729 ,4392 | +8,232 +7,467 +7,986 |
| 1521 1522 1523 1524 1525 | Aquilæ pr. | | 8 2 8 2 3 | | 5 55,64 6 7,20 6 7,9 6 39,5 6 44,1 | 2,946 1 2,946 3 3,010 | 5455 5455 5459 | ,7568 ,7568 ,7542 | ,4692 ,4692 ,4786 | +7,571 +7,573 |
| 1526 1527 1528 1529 1530 | Aquilæ Cygni | 7. 8 | 3 | e e | 7 10,2 7 16,6 7 56,3 8 29,2 8 31,7 | 9 3,023 6 2,24 8 1,885 | 5469 1 ,6408 7 ,7100 | 7533 ,7533 ,8450 ,9117 | 3504 2758 | +7,159 $+8,411$ $+8,568$ |

| No. | No. Obs. | Declination Jan. 1, 1836. | Annual Preces- | | Logarit | hms of | | zi No. | Annual | I P. M. |
|--------------------------------------|-----------------------|---|---|---|---|--|---|---------------------------------|---|---|
| 4 | O DS. | | sion. | a' | <i>b</i> ′ | c' | d' | Piazzi | A. R. | Decn. |
| 1486 1487 1488 1489 1490 | 3 4 3 3 | - 7 2 40,21 -19 57 8,28 +17 16 38,05 -22 8 6,82 -13 23 24,84 | +9,773 9,783 9,793 9,799 9,860 | +9,5105 +9,0414 +9,8280 +8,8692 +9,3424 | +9,1619 | +0,9900 ,9905 ,9909 ,9912 ,9939 | | 389 388 394 390 396 | s. +,019 +,001 +,012 +,001 +,007 | - ,07 - ,15 - ,01 - ,17 - ,08 |
| 1491 1492 1493 1494 1495 | 3 3 3 4 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 9,865 9,890 9,890 9,936 9,986 | +9,3598 +9,4579 +9,8704 +9,6170 +9,8202 | -9,0409 -8,9048 +9,2887 -8,0620 +9,1486 | + 0 ,9941 ,9752 ,9952 ,9972 ,9994 | ,9388 | 398 399 401 403 409 | +,011 +,017 +,005 +,031 +,019 | + ,03 - ,06 + ,04 - ,15 - ,06 |
| 1496 1497 1498 1499 1500 | 3 1 3 3 2 | + 1 58 29,30 +20 38 4,46 +16 33 8,61 +19 44 46,00 +21 8 55,77 | 9,991 10,037 10,032 10,117 10,142 | +9,6665 +9,8519 +9,8214 +9,8451 +9,8555 | +8,2332 +9,2466 +9,1540 +9,2319 +9,2615 | +0,9996 1,0016 1,0014 1,0051 1,0061 | +9,9380 ,9373 ,9374 ,9361 ,9358 | 407 415 413 422 424 | +,018 +,013 +,009 +,011 +,018 | + ,05 - ,06 + ,05 - ,17 + ,07 |
| 1501 1502 1503 1504 1505 | 3 4 2 3 2 | +16 26 6,73 - 6 38 25,26 +25 48 2,91 - 9 19 19,19 - 6 34 2,75 | 10,158 10,167 10,172 10,208 10,218 | +9,8195 +9,5211 +9,8842 +9,4609 +9,5224 | +9,1564 -8,7679 +9,3444 -8,9154 -8,7646 | ,0072 ,0074 | +9,9355 ,9354 ,9353 ,9348 ,9346 | 2 423 5 4 6 | -,005 +,017 +,007 +,009 +,006 | - ,05 - ,05 + ,01 - ,08 - ,10 |
| 1506 1507 1508 1509 1510 | 2 1 2 3 | +20 31 28,55 - 6 37 49,28 - 0 36 25,61 + 5 52 3,10 +63 13 | 10,238 10,253 10,253 10,268 10,278 | +9,8500 +9,5211 +9,6284 +9,7160 +9,9827 | +9,2533 -8,7704 -7,7167 +8,7203 +9,6607 | +1,0102 ,0108 ,0108 ,0115 ,0119 | +9,9343 ,9341 ,9341 ,9339 ,9337 | 15 8 12 17 30 | +,017 +,017 +,016 | - ,09 - ,03 - ,19 - ,03 |
| 1511 1512 1513 1514 1515 | 2 3 1 2 1 | + 5 35 26,16 - 0 18 14,75 +15 41 16,21 -11 19 28,90 +20 52 10,14 | 10,288 10,293 10,308 10,318 10,338 | +9,7126 +9,6335 +9,8129 +9,4116 +9,8513 | +8,6997 -7,4047 +9,1437 -9,0038 +9,2645 | +1,0123 ,0125 ,0132 ,0136 ,0144 | ,9335 ,9333 ,9331 | 19 18 23 20 27 | +,014 +,016 +,016 +,011 +,015 | - ,15 - ,14 + ,16 - ,08 + ,01 |
| 1516 1517 1518 1519 1520 | 3 2 3 3 | $\begin{array}{c} +15 & 43 & 54,14 \\ +26 & 15 & 33,25 \\ +4 & 49 & 13,70 \\ +15 & 36 \\ -12 & 7 & 41,41 \end{array}$ | 10,393 10,413 10,428 10,434 10,472 | +9,8129 +9,8848 +9,7024 +9,8116 +9,3892 | +9,1480 +9,3616 +8,6418 +9,1465 -9,0401 | +1,0167 ,0176 ,0182 ,0184 ,6200 | +9,9320 ,9317 ,9315 ,9314 ,9308 | 32 36 35 38 39 | +,020 +,015 +,022 +,014 | - ,04 + ,03 - ,18 - ,12 |
| 1521 1522 1523 1524 1525 | 3 2 3 3 2 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 10,482 10,498 10,498 10,537 10,543 | +9,6325 +9,7177 +9,7177 +9,6776 +9,2279 | -7,4832 +8,7455 +8,7467 +8,4273 -9,1815 | +1,0205 ,0211 ,0211 ,0227 ,0229 | +9,9306 ,9304 ,9304 ,9297 ,9297 | 41 43 44 46 45 | +,017 -,010 -,013 +,005 +,016 | - ,10 - ,03 - ,08 - ,12 - ,12 |
| 1526 1527 1528 1529 1530 | 3 3 1 4 4 | - 3 3 33,77 + 2 21 6,39 +36 6 40,82 +46 13 4,67 +36 15 24,12 | 10,572 10,682 10,621 1 ₀ ,666 10,671 | +9,5888 +9,6712 +9,9299 +9,9595 +9,9299 | -8,4481 +8,3354 +9,4946 +9,5846 +9,4980 | ,0280 | +9,9292 ,9290 ,9284 ,9277 ,9276 | 50 51 55 63 61 | +,012 | + ,03 ,00 - ,09 ,00 + ,06 |

| No. | Star's name and | Mag. | No. Obs. | | | ision | Annual Preces- | | Logari | thms of | |
|--------------------------------------|--|---------------------------------|-----------------------|----------|--------------------------|---|--|---|---|--|---|
| | | | | Jai | n. 1, | 1836. | sion. | a | Ъ | C | d |
| 1531 1532 1533 1534 1535 | Aquilæ Capricorni Vulpeculæ Draconis Capricorni | 7.8 7.8 7.8 6.7 8.9 | 3 | h. 20 | m. 9 9 10 10 | s. 37,15 51,11 56,45 26,47 41,70 | *. +2,758 3,365 2,634 1,107 3,364 | ,5689 ,5846 | 8,7660 8,7645 8,7799 9,0523 8,7634 | +0,4406 ,5270 ,4206 ,0441 ,5269 | +7,9931 -7,9758 +8,1406 +8,7969 -7,9778 |
| 1536 1537 1538 1539 1540 | Capricorni Vulpeculæ Antinoi Vulpeculæ Antinoi | 8 7.8 7.8 7.8 | 2 2 4 2 3 | | 11 11 12 | 36,27 40,34 41,96 19,85 23,88 | 3,450 2,605 3,203 2,605 3,202 | +8,5835 ,5939 ,5629 ,5963 ,5649 | 8,7715 ,7819 ,7507 ,7811 ,7499 | 4-0,5378 ,4158 ,5056 ,4158 ,5054 | +8,1758 $-7,6395$ |
| 1541 1542 1543 1544 1545 | Capricorni Antinoi Cephei Capricorni | 7.8 8.9 8.8 | 3 2 2 2 3 | | 12 13 13 13 | 28,83 5,80 8,59 14,18 31,50 | 3,530 3,395 3,206 1,387 3,323 | +8,5962 ,5818 ,5672 ,8208 ,5761 | -8,7809 8,7637 8,7492 9,0031 8,7564 | +0,5478 ,5308 ,5060 ,1421 ,5215 | —8,1781 —8,0308 —7,6572 +8,7415 —7,9249 |
| 1546 1547 1548 1549 1550 | Capricorni Vulpeculæ Capricorni Antinoi | 88889 | 2 2 2 1 4 | | 13 13 13 | 42,14 43,51 47,89 56,27 16,94 | 3,251 3,448 2,640 3,393 3,188 | ,5895 ,5955 ,5840 | -8,7510 ,7690 ,7750 ,7626 ,7469 | +0,5120 ,5376 ,4216 ,5306 ,5035 | $\begin{bmatrix} -8,0989 \\ +8,1502 \end{bmatrix}$ |
| 1551 1552 1553 1554 1555 | Vulpeculæ Capricorni Delphini Vulpeculæ | 9 8 8 8 7.8 | 2 1 2 3 2 | | | 36,55 36,94 34,57 36,21 7,12 | 2,644 3,562 2,876 2,585 2,586 | +8,5974 ,6073 ,5772 ,6085 ,6099 | -8,7736 ,7832 ,7493 ,7806 ,7798 | +0,4223 ,5517 ,4588 ,4125 ,4126 | +8,1498 -8,2163 +7,8103 +8,2104 +8,2112 |
| 1556 1557 1558 1559 1560 | Antinoi Vulpeculæ Antinoi Delphini | 8 7 7 7.8 9 | 3 2 2 1 | | 16 16 16 | 12,01 16,04 18,82 21,21 23,93 | 3,108 3,057 2,595 3,052 2,859 | +8,5727 ,5726 ,6092 ,5730 ,5808 | 8,7423 ,7420 ,7783 ,7418 ,7493 | +0,4925 ,4853 ,4141 ,4846 ,4562 | -7,1262 +6,5548 +8,2038 +6,7443 +7,8502 |
| 1561 1562 1563 1564 1565 | Antinoi Capricorni Vulpeculæ Antinoi | 9 7.8 7.8 7.8 7.8 | 1 1 3 3 | | | 35,61 55,11 7,98 21,68 25,08 | 3,144 3,463 3,351 2,582 3,152 | ,6007 ,589 0 ,6140 | 8,7425 ,7671 ,7546 ,7791 ,7417 | +0,4975 ,5394 ,5251 ,4120 ,4986 | -7,4110 -8,1278 -7,9837 +8,2194 -7,4605 |
| 1566 1567 1568 1569 1570 | Antinoi Capricorni Antinoi Vulpeculæ Antinoi | 8.9 7.8 7 8 7 | 4 1 1 2 2 | | 17 17 18 | 27,00 34,91 59,46 7,37 21,97 | 3,144 3,470 3,022 2,603 3,041 | | -8,7414 ,7674 ,7400 ,7753 ,7392 | +0,4972 ,5403 ,4803 ,4155 ,4830 | 7,4153 8,1391 +7,2059 +8,2042 +6,9668 |
| 1571 1572 1573 1574 1575 | Draconis Vulpeculæ Antinoi | 7 8 8 8 7.8 | 1 1 2 2 3 | | 18 18 18 | 51,55 51,68 54,99 56,28 57,95 | 1,921 2,600 3,143 3,119 3,118 | +8,9213 ,6160 ,5812 ,5806 ,5808 | —9,0804 8,7748 8,7394 8,7389 8,7388 | +0,2835 ,4150 ,4973 ,4940 ,4939 | +8,8709 +8,2094 -7,4156 -7,2428 -7,2403 |

| No. | No. Obs. | Declination Jan. 1, 1836. | Annual Preces- | and the second s | Logarith | nms of | | zi No. | Annual | P. M. |
|--------------------------------------|-----------------------|---|--|--|---|---|---|---------------------------------|---|---|
| | | | sion. | a' | <i>b'</i> | ري | d' | Piazzi | A. R. | Decn. |
| 1531 1532 1533 1534 1535 | 3 3 3 3 | +15 22 14,68 -14 47 51,73 +21 3 55,83 +60 8 22,08 -14 47 0,13 | $^{\prime\prime} + 10,754 \ 10,774 \ 10,779 \ 10,808 \ 10,838$ | +9,8075 +9,3117 +9,8500 +9,9759 +9,3139 | +9,1533 -9,1372 +9,2866 +9,6700 -9,1393 | +1,0316 ,0324 ,0326 ,0338 ,0349 | +9,9263 ,9259 ,9259 ,9254 ,9249 | 68 66 72 82 73 | s. +,004 +,011 +,013 +,030 +,002 | " - ,12 - ,14 + ,07 - ,11 - ,13 |
| 1536 | 2 | —18 50 3,30 | 10,907 | +9,1461 | 9,2443 | +1,0377 | +9,9237 | 80 | +,011 | - ,04 |
| 1537 | 2 | +22 25 56,79 | 10,907 | +9,8579 | +9,3176 | ,0377 | ,9237 | 86 | -,007 | + ,06 |
| 1538 | 3 | — 6 52 5,93 | 10,912 | +9,5198 | 8,8124 | ,0379 | ,9237 | 84 | +,003 | - ,15 |
| 1539 | 3 | +22 29 14,82 | 10,965 | +9,8579 | +9,3209 | ,0400 | ,9228 | 91 | +,007 | + ,04 |
| 1540 | 3 | — 6 51 51,27 | 10,960 | +9,5198 | 8,8144 | ,0398 | ,9228 | 90 | +,010 | - ,14 |
| 1541 1542 1543 1544 1545 | 3 2 2 3 3 | -22 28 15,35 -16 20 36,61 - 7 4 52,56 +56 23 58,48 -12 53 54,47 | 10,965 11,014 11,014 11,013 11,043 | +8,9085 +9,2577 +9,5159 +9,9713 +9,3747 | 9,3200 9,1890 8,8300 +9,6605 9,0899 | +1,0400 ,0419 ,0419 ,0417 ,0431 | +9,9228 ,9219 ,9219 ,9220 ,9214 | 88 94 95 104 96 | +,020 +,013 +,003 +,010 | - ,05 + ,23 - ,06 - ,32 + ,07 |
| 1546 | 1 | - 9 20 33,83 | 11,052 | +9,4669 | 8,9515 | +1,0435 | +9,9213 | 98 | +,021 | - ,04 |
| 1547 | 3 | -18 51 31,47 | 11,058 | +9,1523 | 9,2510 | ,0437 | ,9212 | 97 | +,017 | ,00 |
| 1548 | 2 | +21 0 14,47 | 11,058 | +9,8476 | +9,2964 | ,0437 | ,9212 | 101 | +,018 | + ,02 |
| 1549 | 2 | -16 18 30,26 | 11,073 | +9,2601 | 9,1900 | ,0442 | ,9209 | 100 | +,010 | - ,09 |
| 1550 | 1 | - 6 11 41,60 | 11,098 | +9,5327 | 8,7743 | ,0452 | ,9205 | 103 | +,015 | - ,02 |
| 1551 | 2 | +20 53 4,46 | 11,116 | +9,8463 | +9,2963 | +1,0459 | +9,9202 | 106 | +,012 | ,07 |
| 1552 | 2 | -23 59 48,90 | 11,121 | +8,7634 | -9,3532 | ,0461 | ,9201 | 105 | +,027 | ,04 |
| 1553 | 3 | + 9 50 21,98 | 11,189 | +9,7559 | +8,9800 | ,0488 | ,9189 | 110 | +,007 | ,16 |
| 1554 | 2 | +23 33 28,95 | 11,189 | +9,8633 | +9,3487 | ,0488 | ,9189 | 113 | +,002 | ,04 |
| 1555 | 2 | +23 30 54,03 | 11,227 | +9,8627 | +9,3496 | ,0503 | ,9182 | 118 | +,001 | ,04 |
| 1556 | 2 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | - 11,233 | +9,6064 | -8,3020 | +1,0505 | +9,9181 | 115 | +,015 | - ,08 |
| 1557 | 2 | | 11,237 | +9,6454 | +7,7309 | ,0506 | ,9181 | 116 | +,014 | - ,16 |
| 1558 | 1 | | 11,242 | +9,8597 | +9,3434 | ,0508 | ,9180 | 122 | +,010 | - ,08 |
| 1559 | 2 | | 11,247 | +9,6493 | +7,9203 | ,0510 | ,9179 | 117 | +,005 | - ,06 |
| 1560 | 2 | | 11,252 | +9,7634 | +9,0186 | ,0512 | ,9178 | 120 | +,013 | - ,23 |
| 1561 | 2 | - 3 56 57,96 | 11,266 | +9,5752 | -8,5861 | +1,0518 | +9,9175 | 121 | +,005 | - ,14 |
| 1562 | 2 | -19 40 54,15 | 11,291 | +9,1173 | -9,2778 | ,0527 | ,9171 | 123 | -,001 | - ,07 |
| 1563 | 1 | -14 23 33,61 | 11,304 | +9,3324 | -9,1459 | ,0532 | ,9169 | 125 | +,008 | - ,09 |
| 1564 | 2 | +23 45 3,22 | 11,314 | +9,8633 | +9,3570 | ,0536 | ,9167 | 130 | +,014 | + ,01 |
| 1565 | 1 | - 4 23 39,02 | 11,323 | +9,5682 | -8,6353 | ,0540 | ,9165 | 128 | -,022 | - ,06 |
| 1566 | 2 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 11,328 | +9,5752 | -8,5903 | +0,0542 | +9,9164 | 129 | +,015 | - ,11 |
| 1567 | 2 | | 11,338 | +9,0969 | -9,2880 | ,0545 | ,9162 | 127 | +,012 | - ,17 |
| 1568 | 2 | | 11,368 | +9,6702 | +8,3816 | ,0556 | ,9157 | 134 | +,006 | - ,03 |
| 1569 | 2 | | 11,372 | +9,8579 | +9,3445 | ,0558 | ,9156 | 137 | +,011 | - ,07 |
| 1570 | 3 | | 11,397 | +9,6571 | +8,1427 | ,0567 | ,9152 | 136 | +,011 | - ,01 |
| 1571 1572 1573 1574 1575 | 2 3 2 3 | +62 54 +23 4 13,79 - 3 55 44,97 - 2 39 0,84 - 2 38 0,18 | 11,434 | +9,9685 +9,8579 +9,5753 +9,5966 +9,5977 | +9,7052 +9,3492 -8,5907 -8,4185 -8,4159 | ,0582 ,0582 | ,9147 ,9145 ,9145 | 150 141 138 139 140 | ,000 +,004 +,019 -,010 +,012 | - ,05 - ,06 - ,16 - ,06 |

| No. | Star's name and Mag. | No. Obs. | Ascen | sion | Annual Preces- | | Logarit | hms of | |
|---|--|-----------------------|----------------|---|--|---|---|---|---|
| Parties of pre- | | 0.03. | Jan. 1, | 1836. | sion. | a | b | c | d |
| 1576 1577 1578 1579 1580 | Delphini 8.9 | 3 2 2 | | s. 16,06 58,88 0,71 8,79 14,16 | *. +2,858 3,163 3,022 2,916 3,063 | +8,5889 ,5847 ,5834 ,5875 ,5838 | -8,7458 ,7386 ,7374 ,7410 ,7367 | +0,4561 ,5001 ,4803 ,4648 ,4861 | +7,8629 $-7,5221$ $+7,2054$ $+7,7257$ $+6,3697$ |
| 1581 1582 1583 1584 1585 | Vulpeculæ 7.8 Delphini 7.8 Antinoi 8 8.9 8.9 | 2 2 2 | 20 21 | 14,52 35,65 22,86 53,02 56,38 | 2,598 2,920 3,163 3,181 3,189 | +8,6204 ,5884 ,5884 ,5905 ,5909 | -8,7736 ,7403 ,7368 ,7567 ,7371 | +0,4146 ,4654 ,5001 ,5026 ,5036 | +8,2170 +7,7174 -7,5258 -7,6049 -7,6346 |
| 1586 1587 1588 1589 1590 | Capricorni 7.8 ——————————————————————————————————— | 3 4 3 2 2 | 22 22 22 | 59,63 37,00 39,26 42,74 20,24 | 3,271 3,522 3,522 2,692 3,143 | +8,5958 ,6249 ,6252 ,6148 ,5929 | -8,7417 ,7685 ,7684 ,7581 ,7335 | +0,5147 ,5468 ,5468 ,4301 ,4973 | 7.8592 8,2111 8,2117 +8,1304 7,4329 |
| 1591 1592 1593 1594 1595 | Delphini seq. 7.8 Cygni 7 8 7 7 | 3 2 1 1 1 | 23 23 24 | 23,30 26,95 45,67 58,71 49,45 | 2,863 1,849 1,853 2,381 1,845 | | -8,7401 ,9102 ,9094 ,8044 ,9095 | +0,4568 ,2669 ,2679 ,3768 ,2660 | +7,8689 +8,6433 +8,6434 +8,4011 +8,6541 |
| 1596 1597 1598 1599 1600 | Aquarii 8 Delphini 7.8 Aquarii 8 Draconis 7 Aquilæ 8.9 | 2 2 | 26 26 26 | 55,05 19,26 21,34 21,57 26,70 | 2,797 3,248 0,381 | +8,6048 8,6131 8,6059 9,0301 8,6003 | 8,7417 8,7343 9,1594 | 0+,5119 0,4467 0,5116 9,5809 0,4816 | -7,8276 +8,0018 -7,8258 +8,9980 +7,1358 |
| 1601 1602 1603 1604 1605 | Delphini | 3 | 26 | 36,17 46,99 55,81 29,46 35,59 | 2,864 2,360 3,116 3,016 2,865 | +8,6080 ,6795 ,6016 ,6030 ,6106 | -8,7357 ,8066 ,7279 ,7272 ,7343 | +0,4570 ,3729 ,4936 ,4794 ,4571 | +7,8794 +8,4212 -7,2583 +7,2867 +7,8827 |
| 1606 1607 1608 1609 1610 | Cephei 6.7 | | 28 28 | 45,93 25,35 42,28 43,05 14,68 | 1,471 3,032 3,103 1,233 1,836 | +8,8581 ,6051 ,6059 ,9049 ,7917 | 8,9815 8,7256 8,7252 9,0246 8,9093 | +0,1676 ,4817 ,4918 ,0910 ,2639 | +8,7779 +7,1370 -7,1188 +8,8419 +8,6709 |
| 1611 1612 1613 1614 1615 | 7.8 | 3 1 3 2 | | 25,21 30,61 35,21 3,80 13,21 | 3,405 3,160 1,863 1,746 2,833 | +8,6282 ,6091 ,7874 ,8126 ,6198 | -8,7448 ,7255 ,9037 ,9271 ,7333 | +0,5321 ,4997 ,2702 ,2420 ,4522 | -8,1092 -7,5436 +8,6628 +8,7050 +7,9563 |
| 1616 1617 1618. 1619. 1620. | Delphini 8.1 Cephei 7. | 3 2 2 | 30 30 30 | 22,40 35,49 49,29 57,24 24,21 | 2,833 1,147 2,920 | | -8,7388 8,7332 9,0391 8,7260 8,7836 | +0,5266 ,4522 ,0596 ,4654 ,3908 | -8,0535 +7,9654 +8,8700 +7,7569 +8,3740 |

| No. | No. Obs. | Declination Jan. 1, 1836. | Annual Preces- | | Logarith | ms of | | i No. | Annua | ıl P. M. |
|--------------------------------------|-----------------------|--|--|---|---|---|---|---------------------------------|---|---|
| | | | sion. | a' | <i>b</i> ′ | c' | d' | Piazzi | A. R. | Decn. |
| 1576 1577 1578 1579 1580 | 3 4 2 3 3 | +10 49 14,66 - 4 58 5,16 + 2 24 1,18 + 7 53 55,70 + 0 20 42,57 | " +11,458 11,511 11,511 11,520 11,530 | +9,7634 +9,5575 +9,6702 +9,7340 +9,6425 | +9,0312 -8,6965 +8,3811 +8,8976 +7,5458 | +1,0591 ,0611 ,0611 ,0615 ,0618 | +9,9141 ,9131 ,9131 ,9129 ,9127 | 143 148 149 151 152 | s. +,020 +,005 +,011 +,007 +,001 | - ,04 - ,21 + ,02 - ,13 - ,45 |
| 1581 1582 1583 1584 1585 | 2 3 2 | +23 15 + 7 43 12,94 4 58 5 55 59,39 6 22 9,41 | 11,525 11,549 11,611 11,649 11,649 | +9,8585 +9,7324 +9,5587 +9,5416 +9,5327 | +9,3563 +8,8895 -8,7003 -8,7787 -8,8081 | +1,0616 ,0625 ,0649 ,0663 ,0663 | +9,9128 ,9124 ,9112 ,9105 ,9105 | 155 156 158 159 160 | +,019 +,010 +,001 +,012 +,005 | - ,16 - ,10 - ,02 |
| 1586 1587 1588 1589 1590 | 2 2 3 4 | -10 34 42,07 -22 42 9,05 -22 42 34,59 +19 7 24,38 - 3 59 20,19 | 11,653 11,696 11,701 11,701 11,748 | +9,4425 +8,9395 +8,9395 +9,8299 +9,5763 | 9,0278 9,3522 9,3527 +9,2818 8,6077 | +1,0664 ,0680 ,0682 ,0682 ,0700 | +9,9104 ,9096 ,9095 ,9095 ,9086 | 161 166 167 171 175 | +,010 +,011 +,021 +,005 +,012 | - ,14 ,00 - ,04 - ,11 - ,05 |
| 1591 1592 1593 1594 1595 | 3 1 3 3 1 | +10 42 48,81 +48 22 34,24 +48 19 23,05 +32 32 57,57 +48 39 48,38 | 11,748 11,748 11,772 11,862 11,917 | +9,7612 +9,9513 +9,9508 +9,9031 +9,9494 | +9,0374 +9,6417 +9,6422 +9,5030 +9,6499 | +1,0700 ,0700 ,0708 ,0741 ,0762 | +9,9086 ,9086 ,9081 ,9063 ,9053 | 178 183 184 190 199 | +,005 +,008 -,018 -,003 +,005 | - ,18 - ,07 - ,23 - ,07 + ,03 |
| 1596 1597 1598 1599 1600 | 3 2 1 2 2 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 11,932 11,960 11,964 11,950 11,969 | +9,4683 +9,7903 +9,4698 +9,8621 +9,6637 | -8,9976 +9,1645 -8,9958 +9,7433 +8,3116 | +1,0767 ,0777 ,0779 ,0774 ,0781 | +9,9050 ,9044 ,9043 ,9046 ,9042 | 193 198 195 208 197 | +,013 +,009 -,006 +,022 +,021 | - ,20 - ,09 - ,20 + ,13 + ,02 |
| 1601 1602 1603 1604 1605 | 2 2 2 3 | +10 45 12,04 +33 28 3,15 - 2 36 39,90 + 2 44 38,44 +10 46 44,33 | 11,978 11,988 12,002 12,038 12,048 | +9,7597 +9,9052 +9,5977 +9,6730 +9,7308 | +9,0478 +9,5185 -8,4340 +8,4623 +9,0510 | +1,0784 ,0787 ,0792 ,0806 ,0809 | +9,9040 ,9038 ,9036 ,9028 ,9026 | 201 204 202 205 206 | +,004 +,016 +,010 +,004 +,023 | - ,09 - ,02 ,00 - ,14 + ,23 |
| 1606 1607 1608 1609 1610 | 2 4 3 2 2 | +56 13 33,05 + 1 55 55,95 - 1 52 37,81 +59 52 3,01 +49 12 38,91 | 12,053 12,104 12,127 12,118 12,156 | +9,9566 +9,6637 +9,6180 +9,9576 +9,9469 | +9,6989 +8,3128 -8,2947 +9,7185 +9,6620 | +1,0811 ,0829 ,0338 ,0834 ,0848 | +9,9025 ,9015 ,9010 ,9012 ,9004 | 217 214 216 222 226 | +,009 +,013 +,010 +,007 +,002 | + ,08 - ,03 - ,07 - ,22 - ,12 |
| 1611 1612 1613 1614 1615 | 2 3 3 2 2 | -17 37 56,02 - 4 57 0,35 +48 36 54,78 +51 17 28,89 +12 31 25,58 | 12,174 12,178 12,178 12,211 12,229 | +9,2380 +9,5611 +9,9460 +9,9494 +9,7752 | -9,2644 -8,7181 +9,6590 +9,6771 +9,1219 | +1,0854 ,0856 ,0856 ,0867 ,0874 | +9,9000 ,8999 ,8999 ,8993 ,8989 | 218 221 230 236 231 | +,008 +,009 +,016 +,011 -,001 | - ,01 - ,17 ,00 + ,07 - ,02 |
| 1616 1617 1618 1619 1620 | 2 2 2 2 1 | -15 32 47,39 +12 45 25,18 +61 10 48,83 + 7 57 2,56 +30 0 20,18 | 12,234 (2,253 12,263 12,276 12,312 | +9,3139 +9,7767 +9,9552 +9,7324 +9,8870 | -9,2134 +9,1306 +9,7292 +8,9288 +9,4876 | +1,0876 ,0882 ,0885 ,0890 ,0903 | +9,8987 ,8984 ,8982 ,8979 ,8971 | 229 235 252 238 249 | +,009 +,024 +,020 +,021 +,004 | ,13 ,03 +- ,04 ,13 ,17 |

| No. | Star's name and | Mag. | No. | A | Rigl | ht sion | Annual Preces- | | Logarit | hms of | |
|--------------------------------------|--|--------------------------------|-----------------------|-----------------------|----------------------|---|--|---|--|---|---|
| | | | Obs. | Jan | ı. l, | 1836. | sion. | a | ь | c | d |
| 1621 1622 1623 1624 1625 | Delphini Aquarii Delphini Cephei | 7 7 7.8 7 | 1 2 2 2 | h. 20 | 31 | s. 28,43 39,80 45,57 0,13 | s. +2,780 3,127 2,829 2,921 0,179 | +8,6279 8,6134 8,6240 8,6179 9,0790 | 8,7367 8,7214 8,7314 8,7243 9,1859 | +0,4440 0,4951 0,4516 0,4655 9,2528 | +8,0488 -7,3602 +7,9689 +7,7551 +7,0519 |
| 1626 1627 1628 1629 1630 | Delphini Aquarii Delphini | 7.8 8 8.9 8 | 2 | | 32 32 32 33 | 8,12 8,57 47,87 20,34 22,97 | 2,828 2,830 3,282 3,115 2,748 | +8,6251 ,6249 ,6245 ,6174 ,6363 | 8,7310 ,7308 ,7278 ,7186 ,7376 | +0,4515 ,4518 ,5292 ,4935 ,4390 | +7,9722 +7,9687 -7,9248 -7,2713 +8,1023 |
| 1631 1632 1633 1634 1635 | Vulpeculæ Aquarii Delphini Capricorni Delphini | 8 7.8 8 8 | 1 2 1 2 1 | | 33 33 34 34 | 42,71 | 3,586 | ,6667 | ,7253 ,7648 | +0,4098 ,5160 ,4571 ,5546 ,4507 | -7,9276 +7,9070 |
| 1636 1637 1638 1639 1640 | Delphini Cygni Delphini Cygni Vulpeculæ | 9 {7.8 7.8 7.8 8.9 | 2 1 | | 35 35 35 36 | 29,41 57,04 | 3,004 2,344 | ,7078 ,6228 ,7090 | ,8018 ,7157 ,8003 | ,3700 | +8,4661 $+7,4085$ $+8,4663$ |
| 1641 1642 1643 1644 1645 | Aquarii Cephei Aquarii | 7.8 8.9 8.9 | 1 | | 36 36 37 37 | 2,70 8,04 | 3,058 0,891 3,232 | ,6245 ,9923 ,6313 | 8,7133 9,0798 8,7178 | 0,4854 9,9499 0,5095 | +6,6067 +8,9481 -7,8272 |
| 1646 1647 1648 1649 1650 | Cygni Cephei | 8.9 7. 7 8 | 8 2 | | 38 39 39 40 | 3,30 9 26,40 9 42,30 | 2,473 8 1,074 0 1,089 | 6930 1 ,9708 9 ,9689 | 8,7723 5 9,0488 9 9,0461 | ,393 ,031 ,037 | 2 + 8,3931 0 + 8,9196 |
| 1651 1652 1653 1654 1654 | Vulpeculæ Equulei Vulpeculæ | 8 | | 3 2 2 2 3 | 4 4 4 | 0° 23,7 0° 43,7 0° 57,5 1° 11,4 1° 40,9 | 8 2,57 4 2,97 3 2,57 | 9 0 ,636 5 ,680 | 9 8,7516 7 8,7082 8 8,7516 | ,411 ,472 ,410 | 4 +8,3145 8 +7,6182 8 +8,3198 |
| 1656 1656 1658 1666 | 7 Aquarii 8 Capricorn 9 Aquarii | i 8 | .9 | 1 2 2 2 | 4 | 3 3 10,5 3 37,3 3 40,5 3 47,9 | 3,37 5 3,16 | 641 2 ,659 642 ,642 | 5 ,7040 4 ,720 4 ,703 | 5 500 8 ,527 8 ,500 | $ \begin{vmatrix} 1 & -7,6137 \\ 9 & -8,1195 \\ 0 & -7,6079 \end{vmatrix} $ |
| 166 166 166 166 | 2 Equulei 3 Capricorn 4 Delphini | 1 | 7 8 7.8 | 2 1 2 1 2 | 4 | 13 50,6 13 59,3 14 10,3 14 26,3 14 30,7 | 75 2,94 38 3,57 29 2,88 | 644 9 ,691 38 ,649 | 5 ,704 5 ,750 0 ,707 | 6 ,469 8 ,553 5 ,460 | $\begin{array}{c c} 1 & +7,7294 \\ 88 & -8,3476 \\ 6 & +7,8945 \end{array}$ |

| No. | No. Obs. | Declination | Annual Preces- | | Logarith | ms of | | zi No. | Annual | P. M. |
|--------------------------------------|-------------------------|---|--|---|---|---|---|---------------------------------|---|--|
| | Obs. | Jan. 1, 1836. | sion. | a' | <i>b'</i> | c' | d' | Piazzi | A. R. | Decn. |
| 1621 1622 1623 1624 1625 | 3 2 3 2 1 | +15 15 57,88 -3 13 30,85 +12 45 25,38 +7 52 24,31 +69 58 5,08 | + 12,313 12,326 12,336 12,354 12,344 | +9,7973 +9,5899 +9,7760 +9,7308 +9,9489 | +9,2093 -8,5357 +9,1341 +8,9270 +9,7624 | +1,0903 ,0908 ,0911 ,0918 ,0915 | +9,8971 ,8968 ,8966 ,8962 ,8964 | 247 246 251 253 265 | *,001 +,006 +,012 +,005 | -,09 - 08 -1,18 -,11 -,19 |
| 1626 1627 1628 1629 1630 | 1 3 2 | +12 50 44,84 +12 43 51,01 -11 31 23,59 - 2 35 56,19 +16 59 35,22 | 12,363 12,363 12,409 12,445 12,445 | +9,7767 +9,7760 +9,4314 +9,6010 +9,8089 | +9,1373 +9,1339 -9,0920 -8,4469 +9,2590 | ,0921 ,0937 ,0950 | +9,8960 ,8960 ,8950 ,8942 ,8942 | 255 256 259 260 261 | +,008 +,010 +,012 +,016 +,017 | - ,01 - ,06 - ,07 - ,04 + ,06 |
| 1631 1632 1633 1634 1635 | 1 2 2 | +25 30 3,67 -11 33 1,73 +10 59 13,50 -26 24 35,19 +13 12 33,56 | 12,467 12,473 12,487 12,500 12,500 | +9,8621 +9,4314 +9,7597 +8,6232 +9,7789 | +9,4281 -9,0949 +9,0751 -9,4429 +9,1544 | +1,0958 ,0960 ,0964 ,0969 ,0969 | +9,8937 ,8936 ,8933 ,8930 ,8930 | 268 262 269 266 271 | +,014 +,008 +,016 +,006 +,012 | ,10 ,05; ,11; ,10; ,05 |
| 1636 1637 1638 1639 1640 | 2 | +15 32 43,07 +34 57 35,89 + 3 29 35,06 +34 52 13,94 +25 14 | 12,559 12,573 12,591 12,618 12,641 | +9,7973 +9,9036 +9,6812 +9,9031 +9,8591 | +9,2252 +9,5557 +8,5838 +9,5564 +9,4298 | ,0994 ,1001 | +9,8917 ,8914 ,8910 ,8904 ,8899 | 275 278 277 283 287 | +,036 +,010 +,005 +,001 | ,09 ,17 ,07 ,20 |
| 1641 1642 1643 1644 1645 | 3 | $\begin{array}{ccccc} +16 & 59 & 6,16 \\ +0 & 32 \\ +64 & 33 & 42,20 \\ -9 & 2 & 42,54 \\ +11 & 3 & 6,10 \end{array}$ | 12,654 12,663 12,686 12,703 12,745 | +9,8075 +9,6444 +9,9474 +9,4885 +9,7589 | +9,2662 +7,7828 +9,7571 -8,9979 +9,0865 | +1,1022 ,1025 ,1033 ,1039 ,1053 | +9,8896 ,8894 ,8889 ,8884 ,8875 | 288 286 295 290 292 | +,015 ,000 +,011 +,026 | + ,02 - ,02 + ,15 - ,09 |
| 1646 1647 1648 1649 1650 | 2 2 1 | +25 30 44,69 +30 3 46,82 +62 45 37,85 +62 37 31,58 —13 12 37,16 | 12,830 12,848 12,866 | +9,8591 +9,8808 +9,9450 +9,9445 +9,3927 | +9,4395 +9,5063 +9,7559 +9,7559 —9,1673 | ,1082 ,1088 ,1094 | | 300 308 315 317 311 | +,007 +,046 +,005 | - ,11 - ,15 - ,07 + ,27 + ,04 |
| 1651 1652 1653 1654 1655 | 3 3 2 | +62 37 0,18 +25 34 41,00 + 5 28 54,25 +25 47 37,91 + 1 49 46,15 | 12,947 12,963 12,978 | +9,9440 +9,8579 +9,7033 +9,8591 +9,6618 | +9,4457 $+8,7923$ $+9,4502$ | ,1127 ,1132 | ,8829 ,8823 ,8820 | 326 319 318 324 327 | -,001 +,013 ,000 | + ,05 - ,09 - ,12 - ,06 - ,10 |
| 1656 1657 1658 1659 1666 | 7 3 8 2 9 3 | +54 57 - 5 24 22,17 -16 46 29,83 - 5 18 52,13 - 3 49 45,78 | 13,141 13,141 | +9,9390 +9,5575 +9,2945 +9,5587 +9,5821 | -8,7879 -9,2768 | ,1176 3 ,1186 2 ,1186 | ,8788 ,8780 ,8780 | 349 340 343 344 346 | +,017 +,012 +,019 | + ,22 - ,16 |
| 1661 1662 1664 1664 | 2 2 3 2 4 1 | 480 | 3 13,163 2 13,176 9 13,189 | | +8,902 $-9,473$ $+9,063$ | 1193 6 ,1198 6 ,1209 | ,8774 ,8771 ,8768 | 348 | 2 +,010 8 +,013 4 +,017 | $\begin{vmatrix} - & 01 \\ - & 15 \end{vmatrix}$ |

| • | | | No. | Right | Annual | | Logari | ithms of | |
|--------------|--|------------|---------------|--------------------------------------|-------------------------|----------------------------------|-------------------------|--------------------------------|---|
| No. | Star's name and | Mag. | Obs. | Ascension | Preces- | | | | *************************************** |
| | Appending when the second seco | .* | | Jan. 1, 1836. | sion. | a | ь | c | d |
| 16 66 | Equulei pre. | 8.9 | 4 | h. m s. 20 44 38,92 | $ \frac{s.}{+2,949} $ | +8,6456 | _8,7034 | +0,4697 | +7,714 |
| 1667 | seq. | 9 | 2 | 44 40,06 | 2,950 | ,6457 | ,7032 | ,4698 | +7,7138 |
| 1668 1669 | Capricorni | 7.8 | 1 | 44 41,46 | | ,6899 | ,7472 | | 8,334 |
| 1670 | Aquarii | 6.7 7.8 | 2 | 45 45 26,54 | 3,200 3,158 | ,6476 ,6461 | ,7031 7008 | ,505 l ,4994 | -7,7623 $-7,5993$ |
| 1671 | Capricorni | 8.9 | 1 | 45 36,74 | | +8,6939 | -8,7476 | + 0,5529 | 8,346 7 |
| 1672 1673 | Cephei | 8 | 1 | 45 37,24 | 0,408 | 9,0970 | 9,1517 | | +9,068 |
| 1674 | Microscopii Capricorni | 8.9 8 | 2 | 45 45,54 45 47,41 | | 8,7175 | 8,7707 | , , , | -8,443 |
| 1675 | Equulei . | 7.8 | i | 45 54,05 | 3,353 3,010 | 8,6621 8,6461 | 8,7153 8,6990 | | -8,0998 +7,4127 |
| 1676 | Aquarii | 8 | 1 | 46 18,58 | 3,204 | +8,6503 | | +0,5057 | -7,7820 |
| 1677 | Delphini | 9.10 | | 46 | 2,877 | ,6548 | ,7047 | | |
| 1678 1679 | Aquarii Equulei | 8 7.8 | 1 2 | 46 48,48 | | ,6474 | ,6968 | ,4839 | +6,9684 |
| 1680 | Capricorni | 8.9 | 1 | 47 3,42 47 35,47 | | ,6510 ,6673 | ,6994 ,7134 | ,4694 ,5266 | +7,7318 $-8,1199$ |
| 681 | Equulei | 8 | 2 | 47 44,40 | 2,944 | +8,6526 | -8,6984 | +0,4689 | +7,7426 |
| 682 | Capricorni | 9 | 1 | 48 0,27 | 3,367 | ,6689 | ,7134 | ,5272 | -8,1294 |
| 683 684 | Aquarii Missessii | 8 | 1 | 48 19,74 | 3,191 | | ,6974 | ,5039 | -7,7449 |
| 685 | Microscopii Aquarii | 7.8 | 2 2 | 48 2 5,80 48 2 7,53 | 3,694 3,049 | ,7239 ,65 0 9 | ,7669 ,6 9 39 | ,567 <i>5</i> ,484 2 | 8,4519 +6,94 0 7 |
| 686 | Aquarii | 7 | 2 | 48 <i>5</i> 5,60 | 3,135 | +8,6528 | -8,6940 | +0,4962 | 7,479 6 |
| 687 | Cephei | 7.8 | 3 | 49 43,73 | 1,447 | ,9376 | ,9763 | ,1605 | +8,8693 |
| 688 | Aquarii Capricorni | 7 8 | 2 | 50 10,02 | | ,6556 | ,6923 | ,4975 | -7,5454 |
| 690 | Aquarii | 8 | 2 2 | 50 14,43 50 15,61 | 3,378 3,136 | ,6750 ,6 5 56 | ,7114 ,6917 | ,5287 ,496 4 | -8,1531 -7,4919 |
| 691 | Capricorni | 7.8 | 3 | 50 32,12 | 3,589 | +8,7092 | —8,7441 | +0,5550 | |
| 692 693 | Cygni | 8 | 2 | 50 56,18 | 2,4/3 | ,7306 | ,7645 | ,3897 | +8,4628 |
| 694 | Aquarii — | 9.10 | 3 | 51 52 0,97 | 3,096 | ,6569 | ,6890 | ,4908 | -7.1118 |
| 695 | Cygni | 8 | 2 | 52 0,97 52 20,97 | 3,170 2,228 | ,66 0 5 , 7 791 | ,6900 ,8077 | ,5011 ,3479 | -7,6785 + 8,5937 |
| 696 | Cygni | 8 | 2 | 52 21,79 | 2,247 | +8,7748 | 8,8034 | +0,3516 | +8,5835 |
| 697 698 | Delphini | 7.8 | 2 | 52 36,72 | 2,907 | ,6638 | ,6936 | | +7,8753 |
| 699 | Equulei | 9 | 5 2 | 52 47,64 53 94 97 | 2,907 | ,6654 | ,6922 | ,4634 | +7,8769 |
| 700 | Aquarii | 8 | ĩ | 53 24,37 53 35,82 | 2,957 3,271 | ,6638 ,6706 | ,6880 ,6941 | | +7,7209 $-7,9813$ |
| 701 | Equulei | 7.8 | 2 | 53 39,84 | 3,535 | +8,7067 | _8,7299 | +0,5484 | -8,3438 |
| 702 703 | Vulpeculæ* | 8 | 2 | 54 25,22 | 2,707 | ,6913 | ,7118 | | +8,2353 |
| 703 | Aquarii Capricorni | 7.8 7.8 | 2 3 | 54 32,45 | 3,094 | ,6633 | ,6833 | ,4905 | 7,0955 |
| 705 | Aquarii | 8.9 | 3 | 54 45,98 54 59,28 | 3,395 3,184 | ,6873 ,6672 | ,7063 ,6854 | | -8,1941 $-7,7448$ |
| 706 | Microscopii | 7.8 | 1 | 55 55,65 | 3,933 | +8,7951 | -8,8095 | | —8,6208 |
| 707 | Vulpeculæ | 7 | 2 | 55 56,84 | 2,549 | ,7215 | ,7361 | | -8,3983 |
| 708 709 | Cygni Equulei | 7 | 2 | 56 3,90 | 2,294 | ,7748 | ,7893 | | +8,5726 |
| 710 | Vulpeculæ | 8 | $\frac{2}{2}$ | 56 24,65 56 30,51 | 3,030 | ,6672 | ,6801 | ,4814 | +7,2738 |
| 1 | | ~ | ~ | 00 00,01 | 2,548 | ,7229 | ,7356 | ,4062 | +8,4011 |

| No. | No. Obs. | Declination Jan. 1, 1836. | Annual Preces- | | Logarit | hms of | | zi No. | Annual | P. M. |
|--------------------------------------|----------------------------|--|--|---|---|--|---|---------------------------------|---|---|
| | Obs. | <u></u> | sion. | a' | <i>b'</i> | . c' | d' | Piazzi | A. R. | Deçn. |
| 1666 1667 1668 1669 1670 | 2 2 2 1 2 | + 6 43 6,30 + 6 42 31,27 -26 11 24,36 - 7 30 13,48 - 5 9 35,68 | + 13,203 13,207 13,211 13,242 13,255 | +9,7152 +9,7152 +8,7559 +9,5211 +9,5623 | +8,8878 +8,8869 -9,4636 -8,9347 -8,7735 | ,1208 ,1209 | +9,8765 ,8763 ,8762 ,8755 ,8751 | 355 356 353 360 364 | s. +,019 -,060 +,033 +,001 | + ,03 - ,04 - ,12 - ,09 - ,16 |
| 1671 1672 1673 1674 1675 | 2 2 1 2 | $\begin{array}{c} -26 \ 43 \ 48,23 \\ +69 \ 19 \\ -32 \ 10 \ 16,42 \\ -15 \ 54 \ \ 2,98 \\ + \ 3 \ 20 \ 17,42 \end{array}$ | 13,273 13,255 13,281 13,281 13,286 | +8,7076 +9,9320 8,4914 +9,3243 +9,6785 | -9,4738 +9,7916 -9,5473 -9,2589 +8,5881 | +1,1229 ,1224 ,1232 ,1232 ,1234 | +9,8747 ,8751 ,8745 ,8745 ,8743 | 361 374 363 367 368 | +,032 +,057 +,007 +,007 +,011 | - ,08 - ,04 - ,14 - ,17 |
| 1676 1677 1678 1679 1680 | 2 2 | $\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$ | 13,317 13,337 13,347 13,363 13,406 | +9,5172 +9,7528 +9,6532 +9,7168 +9,3117 | 8,9541 +9,0972 +8,1444 +8,9047 9,2778 | +1,1244 ,1251 ,1254 ,1259 ,1273 | +9,8736 ,8730 ,8728 ,8723 ,8713 | 369 371 372 373 375 | +,014 +,008 +,012 +,009 | - ,02 ,00 |
| 1681 1682 1683 1684 1685 | 1 2 2 2 2 2 | + 7 2 50,39 -16 47 49,95 - 7 5 42,19 -32 19 50,86 + 1 6 0,14 | 13,407 13,428 13,446 13,455 13,455 | +9,7185 +9,3032 +9,5302 -8,4624 +9,6513 | +8,9154 -9,2866 -8,9176 -9,5549 +8,1167 | +1,1273 ,1280 ,1286 ,1289 ,1289 | +9,8712 ,8706 ,8702 ,8699 ,8699 | 378 377 385 384 388 | +,002 +,018 +,013 +,020 +,009 | - ,09 - ,05 ,00 - ,10 - ,16 |
| 1686 1687 1688 1689 1690 | 2 4 3 2 3 | - 3 51 42,72 +58 41 11,27 - 4 28 20,48 -17 30 34,75 - 3 56 47,59 | 13,485 13,532 13,563 13,567 13,572 | +9,5832 +9,9325 +9,5752 +9,2878 +9,5821 | -8,6549 +9,7610 -8,7202 -9,3086 -8,6669 | +1,1298 ,1312 ,1323 ,1325 ,1326 | +9,8691 ,8680 ,8670 ,8669 ,8668 | 390 400 396 394 397 | +,013 +,015 +,007 +,027 +,014 | + ,01 + ,06 - ,06 + ,06 - ,10 |
| 1691 1692 1693 1694 1695 | 3 3 4 3 | -27 58 20,14 +32 40 18,40 - 1 38 - 5 59 35,66 +40 43 30,40 | 13,588 13,610 13,640 13,682 13,699 | +8,5798 +9,8814 +9,6170 +9,5514 +9,9058 | -9,5025 +9,5643 -8,2877 -8,8522 +9,6493 | +1,1333 ,1338 ,1348 ,1362 ,1367 | +9,8662 ,8658 ,8649 ,8638 ,8633 | 398 407 408 416 420 | +,015 +,016 +,008 +,020 | - ,11 + ,03 - ,11 + ,03 |
| 1696 1697 1698 1699 1700 | 3 2 1 1 3 | +40 3 53,26 + 9 21 26,93 + 9 21 33,13 + 6 31 40,30 —11 49 14,38 | 13,699 13,677 13,729 13,772 13,784 | +9,9042 +9,7380 +9,7380 +9,7110 +9,4425 | +9,6434 +9,0456 +9,0472 +8,8942 -9,1481 | + 1,1367 ,1360 ,1376 ,1390 ,1394 | +9,8633 ,8639 ,8625 ,8613 ,8609 | 421 419 422 427 426 | +,011 +,018 +,015 +,010 +,019 | ,12 ,09 ,05 ,06 ,08 |
| 1701 1702 1703 1704 1705 | 323343 | -25 42 57,50 +20 27 48,98 - 1 33 57,23 -18 45 13,89 - 6 52 56,19 | 13,788 13,835 13,843 13,860 13,873 | +8,8808 +9,8189 +9,6180 +9,2528 +9,5378 | -9,4747 +9,3830 -8,2714 -9,3465 -8,9178 | +1,1395 ,1410 ,1412 ,1418 ,1422 | +9,8608 ,8595 ,8592 ,8588 ,8584 | 425 434 432 433 438 | +,019 +,019 +,005 +,003 +,014 | - ,13 - ,03 + ,06 ,00 + ,05 |
| 1706 1707 1708 1709 1710 | 1 2 1 2 | -42 1 58,26 +28 20 28,68 +38 51 55,43 + 2 17 42,30 +28 26 46,02 | 13,936 13,932 13,935 13,961 13,965 | -9,2014 +9,8591 +9,8971 +9,6656 +9,8591 | -9,6678 +9,5188 +9,6399 +8,4496 +9,5213 | +1,1441 ,1440 ,1441 ,1449 ,1450 | +9,8566 ,8567 ,8566 ,8558 ,8557 | 442 447 452 448 453 | -,037 +,009 -,002 +,014 -,001 | - ,15 - ,06 - ,02 ,00 - ,25 |

| No. | Star's name and Mag. | No. Obs. | Right Ascension | Annual Preces- | | Logari | thms of | |
|--------------------------------------|--|-----------------------|--|--|---|---|---|---|
| | A manager all managers and a second | F | Jan. 1, 1050. | sion. | á | ь | С | d |
| 1711 1712 1713 1714 1714 | Cygni 6.7 Vulpeculæ Microscopii 7.8 Vulpeculæ 8 Capricorni 8 | +0 | h. m. s. 20 56 43,35 57 57 44,84 57 56,95 58 0,52 | *. +2,319 2,659 3,657 2,664 3,352 | +8,7710 ,7047 ,7397 ,7056 ,6885 | -8,7829 ,7151 ,7473 ,7129 ,6953 | +0,3653 ,4247 ,5631 ,4255 52,53 | +8,5607 +8,2998 -8,4603 +8,2968 -8,1448 |
| 1716 1717 1718 1719 1720 | Capricorni 7.8 Vulpeculæ 7 Capricorni 8 Aquarii 7 | 2 2 2 3 2 | 58 5,15 58 11,98 58 30,28 58 50,57 59 2,10 | 3,348 3,409 2,553 3,345 3,171 | +8,6882 ,6996 ,7268 ,6894 ,6744 | —8,6945 ,7027 ,7319 ,6929 ,6775 | +0,5248 ,5327 ,4070 ,5240 ,5012 | +8,4050 $-8,1367$ |
| 1721 1722 1723 1724 1725 | Equulei 8 Vulpeculæ 8 Cygni 8 Vulpeculæ 8.9 Microscopii 7.8 | 3 1 2 1 2 | 59 5,41 59 15,43 59 32,25 21 0 7,12 0 14,18 | 3,010 2,600 2,310 2,672 3,620 | +8,6728 ,7196 ,7803 ,7092 ,7383 | | +0,4786 ,4150 ,3636 ,4268 ,5587 | +8,3659 +8,5762 |
| 1726 1727 1728 1729 1730 | Capricorni 7.8 Equulei 7 Cygni 8 Microscopii 7.8 Cygni 9 | 2 1 | 0 14,71 0 22,08 0 33,47 0 42,01 0 49,48 | 3,361 2,963 1,863 3,592 2,310 | +8,6948 ,6771 ,8851 ,7339 ,7839 | -8,6925 ,6751 ,8826 ,7304 ,7801 | ,4717 ,2702 ,5553 | +7,7220 + 8,7816 |
| 1731 1732 1733 1734 1735 | Capricorni 8 Equulei 9 Cygni 8 Equulei 8 Aquarii 7.8 | 1 1 3 2 | 1 1,26 1 10,65 1 1 41,03 1 56,21 | 3,344 3,010 2,060 3,030 3,233 | +8,6936 ,6769 ,8435 ,6772 ,6840 | -8,6890 ,6717 ,8370 ,6702 ,6760 | +0,5243 ,4786 ,3139 ,4814 ,5096 | +7,4647 $+8,7083$ $+7,2807$ |
| 1736 1737 1738 1739 1740 | Cygni 8 Equulei 8 Piscis Aust. Capricorni 8 Aquarii 7.8 | 2 1 1 1 | 2 12,88 2 16,77 2 2 42,60 3 1,96 | 2,534 2,902 3,562 3,426 3,321 | ,6847 ,7324 | -8,7302 ,6756 ,7217 ,6976 ,6826 | +0,4038 ,4627 ,5517 ,5348 ,5213 | +8,4345 +7,9279 -8,4028 -8,2627 -8,1136 |
| 1741 1742 1743 1744 1745 | Cygni 7.8 Aquarii 9.10 Picis Aust. 7.8 Equulei 7.8 Cygni 7.8 | 2 2 2 | 3 8,87 4 4,02 4 9,29 4 18,57 4 19,39 | 2,601 3,195 3,610 2,886 2,598 | +8,7285 ,6854 ,7453 ,6899 ,7314 | -8,7158 ,6692 ,7289 ,6730 ,7145 | +0,4151 ,5045 ,5575 ,4603 ,4146 | -7,8180 -8,4484 |
| 1746 1747 1748 1749 1750 | Vulpeculæ 8 | | 4 23,94 4 33,93 4 38,20 4 49,80 5 11,60 | 2,676 2,686 3,418 3,174 1,847 | +8,7177 ,7164 ,7115 ,6856 ,9030 | -8,7003 ,6984 ,6980 ,6664 ,8827 | +0,4275 ,4291 ,5338 ,5016 | +8,2980 8,2605 |
| 1751 1752 1753 1754 1755 | Equulei 8 Capricorni 8.9 7 Equulei 9 Aquarii 8 | 3 2 1 2 | 5 25,39 5 37,72 5 38,68 6 17,44 7 0, 2 9 | 2,896 3,429 3,449 2,897 3,226 | +8,6911 ,7153 ,7185 ,6921 ,6931 | | +0,4618 ,5352 ,5377 ,4619 ,5087 | -8,2781 $-8,3007$ $+7,9534$ |

| No. | No. Obs. | Declination Jan. 1, 1836. | Annual Preces- | | Logarith | ıms of | | zi No. | Annual | Р. М. |
|--------------------------------------|-----------------------|--|--|---|---|---|---|---------------------------------|---|---|
| | Obs. | | sion. | a' | <i>b</i> ′ | c' | d' | Piazzi | A. R. | Decn. |
| 1711 1712 1713 1714 1715 | 1 1 2 2 2 | +38 0 43,46 +23 10 32,99 -31 42 50,84 +22 57 2,58 -16 37 27,31 | 14,002 14,048 14,053 | +9,8938 +9,8331 -7,7781 +9,8312 +9,3263 | +9,6331 +9,4394 -9,5662 +9,4371 -9,3024 | +1,1454 ,1462 ,1476 ,1478 ,1480 | +9,8553 ,8546 ,8532 ,8531 ,8529 | 455 457 459 464 460 | *. +,017 +,025 +,011 +,027 | -,02 +,15 +,09 -,02 +,03 |
| 1716 1717 1718 1719 1720 | 3 1 3 3 | -16 23 37,58 -19 44 23,89 +28 26 44,01 -16 16 42,57 - 6 13 52,45 | 14,074 14,090 | +9,3324 +9,2253 +9,8573 +9,3385 +9,5490 | -9,2966 -9,3749 +9,5251 -9,2950 -8,8825 | +1,1483 ,1484 ,1489 ,1497 ,1499 | +9,8526 ,8525 ,8520 ,8512 ,8510 | 461 462 467 466 470 | -,008 -,005 +,003 +,005 +,025 | ,99 ,11 ,04 ,11 + ,12 |
| 1721 1722 1723 1724 1725 | 1 1 3 | + 3 29 15,68 +26 16 21,32 +38 40 22,47 +22 45 -30 22 54,92 | 14,127 14,136 14,152 14,189 14,202 | +9,6776 +9,8470 +9,8932 +9,8280 +8,2553 | +9,4946 +9,6447 | +1,1501 ,1503 ,1508 ,1520 ,1523 | ,8506 | 471 473 480 482 477 | +,009 +,008 -,003 +,015 -,009 | - ,06 + ,05 - ,01 - ,15 |
| 1726 1727 1728 1729 1730 | 1 2 1 2 1 | -17 16 32,16 + 6 19 54,93 +51 57 56,48 -29 9 6,09 +38 50 25,45 | 14,205 14,206 14,214 14,231 14,234 | +9,3117 +9,7067 +9,9149 +8,5563 +9,8921 | -9,3225 +8,8954 +9,7472 -9,5386 +9,6488 | +1,1523 ,1525 ,1527 ,1532 ,1533 | ,8485 ,8482 ,8477 | 481 484 490 483 489 | +,010 +,010 -,011 +,014 -,002 | + ,07 + ,03 - ,06 + ,07 |
| 1731 1732 1733 1734 1735 | 2 2 1 3 3 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 14,288 | +9,3385 +9,6776 +9,9079 +9,6646 +9,4843 | -9,3012 $+8,6399$ $+9,7175$ $+8,4565$ $-9,0932$ | +1,1537 ,1542 ,1547 ,1550 ,1556 | ,8469 ,8462 | 487 488 3 492 493 | +,010 +,016 +,015 +,017 | - ,10 - ,03 + ,05 - ,03 - ,23 |
| 1736 1737 1738 1739 1740 | 1 2 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 14,321 14,345 14,353 | +9,8597 +9,7396 +8,7482 +9,1903 +9,3729 | +9,0972 | ,1560 ,1567 ,1569 | +9,8450 ,8449 ,8441 ,8438 ,8432 | 9 5 4 8 11 | +,027 +,037 +,028 +,015 | - ,11 - ,16 - ,08 - ,16 |
| 1741 1742 1743 1744 1745 | 3 2 | +26 38 11,84 - 7 49 -30 19 59,96 +11 6 50,64 +26 53 13,97 | 14,433 14,437 14,447 | +9,8451 +9,5263 +8,3979 +9,7482 +9,8457 | +9,5075 -8,9900 -9,5606 +9,1436 +9,5133 | ,1595 ,1598 | ,8412 ,8411 ,8408 | 13 16 14 19 22 | +,006 +,003 +,045 +,014 +,008 | ,00, -,15 -,02 +,03 |
| 1746 1747 1748 1749 1750 | 2 2 2 | +22 55 1,35 +22 24 52,64 -20 45 40,16 -6 34 56,54 +52 53 44,18 | 14,463 14,471 14,483 | +9,8261 +9,8228 +9,2068 +9,5465 +9,9101 | +9,4339 $-9,4075$ $-8,9171$ | ,1605 ,1608 | ,8403 ,8401 ,8398 | 23 25 20 24 32 | | - ,05 - ,02 - ,16 - ,01 - ,07 |
| 1751 1752 1753 1754 1755 | 3 2 2 | +10 32 25,18 -21 27 28,06 -22 29 18,34 +10 30 44,52 - 9 47 55,76 | 3 14,531 14,531 2 14,547 | +9,1818 +9,1399 +9,7427 | -9,4231 $-9,4425$ $+9,1221$ | ,1623 ,1623 ,1628 | ,8381 ,8381 ,8375 | 29 28 27 36 39 | ,007 | - , 13 |

| No. | Star's name and Mag | No. Obs | Ascension | Annual Preces- | | Logari | thms of | Angele gallen en Augus gannagagan |
|--------------------------------------|---|---|---|---|---|---|---|---|
| | | | Jan. 1, 1836. | sion. | а | Ь | c | d |
| 1756 1757 1758 1759 1760 | Aquarii 8 Capricorni 7 Piscis Aust. 7 Cephei 6 Equulei 7 | 7 1 | h. m. s. 21 7 5,87 7 21,29 7 33,45 7 37,37 8 5,14 | **. +3,230 3,415 3,625 1,530 2,907 | ,7167 ,7564 ,9797 | -8,6658 ,6879 ,7269 ,9504 ,6638 | ,1847 | -7,9354 -8,2677 -8,4733 +8,9142 +7,9356 |
| 1761 1762 1763 1764 1765 | Equulei 8 7. Cephei 7. Piscis Aust. 7 Cygni 7 | 8 2 8 2 1 | 8 11,09 8 34,70 8 36,71 9 12,16 9 13,11 | 2,903 2,995 1,529 3,579 2,271 | +8,6957 ,6908 ,9832 ,7506 ,8150 | -8,6639 ,6574 ,9501 ,7147 ,7796 | +0,4628 ,4764 ,1844 ,5538 ,3562 | +7,9467 +7,5934 +8,9183 -8,4421 +8,6351 |
| 1766 1767 1768 1769 1770 | Pegasi 8. Aquarii 7. Piscis Aust. 7. Pegasi 7. Equulei 7 | 8 1 8 2 8 2 | 9 29,18 9 33,42 10 12,35 10 17,98 10 33,73 | 2,769 3,275 3,544 2,793 2,937 | +8,7135 ,7022 ,7458 ,7117 ,6974 | -8,6768 ,6653 ,7063 ,6720 ,6566 | +0,4423 ,5152 ,5495 ,4461 ,4679 | +8,2104 -8,0515 -8,4155 +8,1768 +7,8568 |
| 1771 1772 1773 1774 1775 | Pegasi 7. Aquarin 7. Pegasi 7. Cygni 7. | $\begin{bmatrix} 1\\1\\2 \end{bmatrix}$ | 10 45,67 10 54,35 11 1,97 11 33,06 11 58,93 | 2,792 2,788 3,165 2,792 2,572 | +8,7127 ,7135 ,6962 ,7143 ,7538 | -8,6712 ,6715 ,6535 ,6697 ,7075 | +0,4459 ,4453 ,5004 ,4459 ,4103 | +8,1798 +8,1872 -7,7261 +8,1839 +,84403 |
| 1776 1777 1778 1779 1780 | Piscis Aust. 7. Aquarii 8 Cephei 7. Aquarii 7. Equulei 7. | 2 8 2 8 2 | 12 4,51 12 10,25 12 20,16 12 35,90 13 47,58 | 3,580 3,101 1,788 3,259 3,011 | +8,7573 ,6960 ,9386 ,7061 ,6991 | -8,7105 ,6489 ,8913 ,6575 ,6462 | +0,5539 ,4915 ,2524 ,5131 ,4787 | -8,4541 $-7,2634$ $+8,8527$ $-8,0281$ $+7,5050$ |
| 1781 1782 1783 1784 1785 | Pegasi 7 Equulei 7. Aquarii 8 Pegasi 8. Capricorni 7. | 8 3 9 2 | 13 58,29 13 59,07 14 16,10 14 35,72 14 42,37 | 2,699 3,009 3,133 2,691 3,502 | + 8,7321 ,6995 ,7003 ,7360 ,7471 | -8,6784 ,6458 ,6453 ,6801 ,6904 | +0,4312 ,4784 ,4960 ,4299 ,5443 | +8,3097 +7,5228 -7,5668 +8,3306 -8,3926 |
| 1786 1787 1788 1789 1790 | Capricorni 7 Aquarii 9 Capricorni 8 Cygni 7. | 9 2 3 2 | 14 51,35 14 57,01 15 47,00 16 16,90 16 25,92 | 3,480 3,459 3,262 3,493 2, 328 | +8,7432 ,7396 ,7120 ,7486 ,8199 | 8,6860 ,6816 ,6512 ,6857 ,7570 | +0,5416 ,5389 ,5135 ,5432 ,3670 | 8,3708 8,3484 8,0456 8,3891 +8,6302 |
| 1791 1792 1793 1794 1795 | Aquarii 7. Capricorni 8 Caphei 9 7 Piscis Aust. 8 | 8 2 2 1 2 | 16 37,17 16 39,41 17 20,93 17 22, 0 7 17 54,77 | 3,108 3,478 1,746 —0,514 +3,537 | +8,7036 8,7464 8,9639 9,3303 8,7609 | -8,6394 8,6823 8,8975 9,2647 8,6918 | +0,4925 $+0,5413$ $+0,2420$ $-9,7110$ $+0,5486$ | -7,3713 -8,3751 +8,8858 +9,3179 -8,4381 |
| 1796 1797 1798 1799 1800 | Capricorni 7. Aquarii 8 Capricorni 8. Aquarii 8. | 2 2 | 18 13,88 18 24,93 18 52,02 19 2,65 19 11,03 | 3,398 3,288 3,424 3,289 3,261 | +8,7353 ,7195 ,7407 ,7207 ,7178 | -8,6650 ,6487 ,6681 ,6476 ,6439 | +0,5312 ,5169 ,5345 ,5171 ,5133 | -8,2876 -8,1112 -8,3217 -8,1159 -8,0571 |

| No. | No. Obs. | Declination Jan. 1, 1836. | Annual Preces- | | Logarith | ms of | | zi No. | Annua | l P.M. |
|--------------------------------------|----------------------------|--|---|---|---|---|---|---------------------------------|---|---|
| | | | sion. | a' | <i>b'</i> | c' | d' | Piazzi | A. R. | Decn. |
| 1756 1757 1758 1759 1760 | 2 2 2 3 | -10 4 10,64 -20 51 3,23 -31 25 31,39 +59 18 +10 0 22,14 | +14,619 14,635 14,647 14,643 14,674 | +9,4885 +9,2095 +8,1461 +9,9074 +9,7364 | -9,1048 $-9,4144$ $-9,5806$ $+9,7982$ $+9,1050$ | +1,1649 ,1654 ,1657 ,1656 ,1666 | +9,8351 ,8346 ,8342 ,8343 ,8332 | 40 41 42 51 48 | s. +,001 -,012 +,015 +,007 +,014 | - ,11 - ,18 + ,02 - ,18 |
| 1761 1762 1763 1764 1765 | 3 4 1 2 2 | +10 15 3,50 + 4 34 16,80 +59 25 19,91 -29 26 49,72 +41 20 30,88 | 14,682 14,707 14,702 14,746 14,738 | +9,7388 +9,6866 +9,9063 +8,6532 +9,8887 | +9,1158 +8,7681 +9,8005 -9,5581 +9,6866 | +1,1668 ,1675 ,1674 ,1687 ,1684 | +9,8330 ,8321 ,8323 ,8308 ,8311 | 49 53 61 55 63 | +,002 -,002 +,018 +,009 +,016 | ,11 ,17 ,09 ,05 + ;25 |
| 1766 1767 1768 1769 1770 | 1 2 2 3 2 | $\begin{array}{c} +18 & 16 & 51,78 \\ -12 & 56 & 50,44 \\ -27 & 53 & 38,99 \\ +16 & 56 & 39,91 \\ +8 & 16 & 34,31 \end{array}$ | 14,757 14,762 14,801 14,806 14,822 | +9,7952 +9,4346 +8,8388 +9,7867 +9,7210 | +9,3640 -9,2165 -9,5380 +9,3335 +9,0283 | +1,1690 ,1691 ,1703 ,1704 ,1709 | +9,8304 ,8302 ,8288 ,8287 ,8282 | 62 59 65 67 68 | +,002 +,016 +,014 +,020 +,034 | + ,07 + ,07 + ,05 - ,01 - ,11 |
| 1771 1772 1773 1774 1775 | 2 2 2 2 2 2 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 14,832 14,840 14,853 14,880 14,908 | +9,7867 +9,7882 +9,5551 +8,7875 +9,8476 | +9,3364 +9,3432 -8,8997 +9,3403 +9,5579 | +1,1712 ,1714 ,1718 ,1726 ,1734 | ,8275 | 69 73 70 77 80 | -,006 +,012 +,007 +,005 +,010 | + ,04 - ,02 - ,14 + ,01 - ,02 |
| 1776 1777 1778 1779 1780 | 3 2 2 3 1 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 14,914 14,918 14,923 14,942 15,008 | +8,6434 +9,6117 +9,9009 +9,4533 +9,6767 | 9,5684 8,4392 +9,7859 9,1944 +8,6802 | +1,1736 ,1737 ,1738 ,1744 ,1763 | +9,8248 ,8247 ,8245 ,8238 ,8214 | 78 79 86 82 90 | +,021 +,018 +,010 +,015 +,009 | ,14 ,14 ,16 ,09 ,01 |
| 1781 1782 1783 1784 1785 | 3 4 3 1 2 | +22 11 48,44 + 3 47 37,35 — 4 14 26,67 +23 7 49,13 —26 15 29,92 | 15,019 15,019 15,038 15,053 15,065 | +9,8142 +9,6785 +9,5843 +9,8189 +8,9868 | +9,4523 +8,6979 -8,7417 +9,4702 -9,5215 | ,1766 ,1772 | +9,8210 ,8210 ,8203 ,8197 ,8193 | 94 91 95 103 96 | +,016 +,022 +,026 -,010 +,004 | + ,09 - ,12 - ,07 - ,04 - ,05 |
| 1786 1787 1788 1789 1790 | 3 3 2 2 | -25 7 15,04 -23 59 18,71 -12 28 41,79 -25 56 25,30 +40 14 2,34 | 15,073 15,085 15,127 15,157 15,158 | +9,0531 +9,1106 +9,4518 +9,0170 +9,8774 | -9,5038 -9,4853 -9,2114 -9,5192 +9,6890 | +1,1~82 ,1785 ,1797 ,1806 ,1806 | +9,8190 ,8185 ,8169 ,8158 ,8158 | 98 101 106 108 116 | +,030 +,010 +,015 +,020 +,043 | - ,15 - ,02 + ,06 - ,02 - ,10 |
| 1791 1792 1793 1794 1795 | 3 2 2 2 3 | - 2 41 22,47 -25 11 14,40 +56 38 9,60 +76 19 17,97 -28 25 52,00 | 15,177 15,211 15,199 | +9,6052 +9,0607 +9,8938 +9,8663 +8,8633 | -8,5469 -9,5078 +9,8020 +9,8674 -9,5585 | +1,1812 ,1812 ,1821 ,1818 ,1832 | +9,8150 ,8150 ,8137 ,8142 ,8122 | 112 111 124 137 121 | +,009 +,013 +,018 -,064 +,025 | - ,05 - ,15 + ,06 + ,08 - ,02 |
| 1796 1797 1798 1799 1800 | 2 3 3 3 3 | -20 54 57,07 -14 17 40,15 -22 25 20,78 -14 24 14,54 -12 38 10,13 | 15,302 15,309 | +9,2405 +9,4166 +9,1903 +9,4150 +9,4502 | —9,4341 —9,2737 —9,4638 —9,2781 —9,2226 | ,1849 | +9,8115 ,8112 ,8102 ,8099 ,8094 | 123 125 127 128 130 | +,008 +,015 +,017 +,026 -,005 | |

| No. | Star's name and | | Vo. | Rig Ascens | sion | Annual Preces- | | Logarit | hms of | |
|--------------------------------------|--|---------------------------------|----------------------------|--------------------------------------|---|---|---|---|---|---|
| | | | 00. | Jan. 1, | 1836. | sion. | a | ь | с | d |
| 1801 1802 1803 1804 1805 | Aquarii Cygni Aquarii Cephei Aquarii | 9.10 9 8 8 7 | 1 2 2 2 2 | 19 19 19 | s. 14,04 23,64 46,00 49,65 | s. +3,263 2,176 3,115 1,634 3,121 | +8,7182 ,8657 ,7082 ,9969 ,7091 | -8,6440 ,7915 ,6335 ,9213 ,6327 | +0,5136 ,3377 ,4935 ,2132 ,4943 | 8,0625 +8,7227 7,4435 +8,9303 7,5030 |
| 1806 1807 1808 1809 1810 | Aquarii Vulpeculæ Capricorni | 7.8 8.9 8.9 8 | 1 3 3 2 3 | 20 20 20 | 50,04 34,66 41,10 56,30 56,80 | 3,118 3,262 3,293 2,635 3,468 | +8,7089 ,7203 ,7240 ,7596 ,7531 | 8,6327 ,6410 ,6445 ,6791 ,6725 | +0,4939 ,5135 ,5176 ,4208 ,5401 | 7,4690 8,0647 8,1289 +8,4149 8,3809 |
| 1811 1812 1813 1814 1815 | Cygni Equulei Cephei Aquarii | 6.7 6.7 8.9 8 | 2 2 3 1 2 | 22 23 | 8,11 21,06 57,82 43,49 50,84 | 1,969 2,996 1,878 | +8,7795 ,9231 ,7146 ,9525 ,7178 | 8,6984 ,8412 ,6264 ,8616 ,6259 | | $+8,8208 \\ +7,6432$ |
| 1816 1817 1818 1819 1820 | Piscis Aust Capricorni Pegasi Cephei Piscis Aust | 8 7 8 | 3 1 2 1 4 | 23 24 24 | 52,57 56,89 24,78 26,66 32,40 | 3,397 2,710 1,189 | 8,7456 8,7517 9,1051 | | ,5311 ,4330 ,0752 | 8,3074 +8,3460 +9,0656 |
| 1821 1822 1823 1824 1825 | Aquarii | 8.9 7.8 8.9 8.9 8.9 | 2 2 2 2 2 2 | 24 25 25 | | $ \begin{array}{c cccc} 4 & 2,719 \\ 7 & 3,172 \\ 8 & 3,158 \end{array} $ | ,7512 ,7196 ,7189 | ,6549 ,6233 ,6221 | ,4344 ,5013 ,4994 | +8,3374 -7,8106 -7,7465 |
| 1826 1827 1828 1829 1830 | Cygni | 8 8 8 7 7.8 | 1 2 1 2 4 | 2 2 2 | 6 1 6, 1: | $egin{array}{c c} 6 & 3,211 \ 1 & 3,369 \ 2 & 2,331 \ \end{array}$ | 7240 7449 7443 | ,6241 ,6439 ,7433 | 5066 5275 3 3675 | -8,2775 +8,6664 |
| 1831 1832 1833 1834 1834 | Pegasi Capricorni Cygni | 8 | 1 3 1 3 | $\begin{vmatrix} 2\\2 \end{vmatrix}$ | 8 2,0 | $ \begin{array}{c c} 7 & 3,355 \\ 2 & 2,585 \end{array} $ | 7 8,7592 3 8,7457 9 8,7854 | ,6512 ,6370 1 ,675 | 4328 5256 1 ,413 | $\begin{vmatrix} +8,3642 \\ -8,2613 \\ +8,4883 \end{vmatrix}$ |
| 1836 1836 1836 1836 184 | 7 Piscis Aus 8 3 Pegasi pre 9 Cephei | st. 8.9 2. 8 | 3 | | 8 45,3 8 57,4 9 33,1 9 18,3 | 9 3,51 6 2,98 1,59 | 3 8,7787 4 8,7253 3 9,0388 | ,6668 ,611 ,624 | 545 3 ,474 7 ,202 | 7 - 8,4588 + 7,7385 |
| 184 184 184 184 | Cygni Begasi Cephei | 7.8 7.8 8 7.8 i 7.8 | 3 2 | 2 3 | 30 30,6 31 9,6 31 25,6 31 33,5 32 13, | $egin{array}{c c} 57 & 2,42 \ 61 & 3,04 \ 37 & 1,35 \ \end{array}$ | 8,832 8 8,725 0 9,097 | 3 ,712 9 ,604 6 ,976 | 3 ,384 3 ,484 3 ,130 | $\begin{vmatrix} 3 & +8,6274 \\ 0 & +7,1190 \\ 3 & +9,0544 \end{vmatrix}$ |

| No. | No. Obs. | Declination Jan. 1, 1836. | Annual Preces- | | Logarith | ms of | | zi No. | Annual | Р. М. |
|--------------------------------------|-----------------------|---|---|---|---|---|---|---------------------------------|--|--|
| | O DS. | | sion. | a' | <i>b'</i> | c' | d' | Piazzi | A. R. | Decn. |
| 1801 1802 1803 1804 1805 | 1 3 2 1 3 | -12 47 44,74 +46 0 5,67 -3 8 8,28 +59 3 16,86 -3 35 36,76 | $egin{array}{c cccc} & & & & & & \\ & + & 15,323 & & \\ & & 15,323 & \\ & & 15,332 & \\ & & 15,348 & \\ & & 15,358 & \\ \hline \end{array}$ | +9,4472 +9,8837 +9,5999 +9,8893 +9,5944 | -9,2277 +9,7405 -9,6190 +9,8174 -8,6782 | +1,1854 ,1854 ,1856 ,1860 ,1863 | -9,8093 ,8093 ,8090 ,8084 ,8079 | 131 140 135 146 139 | *,013 +,031 +,031 +,006 | + ,10 - ,55 ,00 - ,07 + ,06 |
| 1806 1807 1808 1809 1810 | 2 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 15,353 15,399 15,402 15,418 15,418 | +9,5977 +9,4502 +9,4099 +9,8299 +9,0864 | 8,6444 9,2299 9,2905 +9,5414 9,5139 | +1,1862 ,1875 ,1876 ,1880 ,1880 | -9,8081 ,8062 ,8061 ,8055 ,8055 | 138 143 144 151 147 | +,034 +,013 +,021 +,009 +,028 | - ,03 + ,17 - ,16 + ,23 - ,21 |
| 1811 1812 1813 1814 1815 | 3 1 | +31 30 40,74 +52 11 19,23 + 4 51 39,43 +54 42 7,65 — 7 1 40,43 | 15,436 15,529 15,565 | +9,8476 +9,8865 +9,6857 +9,8837 +9,5490 | +9,6045 +9,7843 +8,8178 +9,8020 -8,9765 | +1,1882 ,1885 ,1911 ,1922 ,1926 | -9,8052 ,8047 ,8009 ,7993 ,7987 | 153 156 163 170 167 | +,018 +,042 +,008 +,024 +,017 | + ,09 + ,01 - ,19 - ,02 - ,03 |
| 1816 1817 1818 1819 1820 | 3 2 2 | -28 36 27,49 -21 23 49,61 +23 7 31,68 +65 56 38,97 -28 37 10,70 | 15,583 15,610 15,607 | +8,9031 +9,2430 +9,8096 +9,8751 +8,9085 | -9,5704 -9,4525 +9,4857 +9,8519 -9,5718 | ,1927 ,1934 ,1933 | -9,7987 ,7986 ,7975 ,7976 ,7970 | 164 165 174 183 169 | +,032 +,044 +,007 +,041 +,013 | - ,04 + ,04 - ,01 + ,13 - ,02 |
| 1821 1822 1823 1824 1825 | 2 1 2 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 15,642 15,642 15,650 | +9,4281 +9,8069 +9,5490 +9,5611 +9,6325 | 9,2799 + 9,4785 8,9833 8,9201 7,8193 | ,1943 ,1943 ,1945 | +9,7970 ,7960 ,7960 ,7957 ,7948 | 172 178 175 176 182 | +,020 ,004 +,027 +,012 ,001 | - ,04 - ,01 - ,08 - ,45 ,00 |
| 1826 1827 1828 1829 1830 | 2 2 1 | -21 10 9,08 - 9 48 44,22 -19 58 16,30 +41 34 33,16 -19 7 14,38 | 15,693 15,708 15,708 | +9,2553 +9,5079 +9,2945 +9,8669 +9,3181 | -9,4506 $-9,1240$ $-9,4268$ $+9,7163$ $-9,4101$ | ,1961 ,1961 | +9,7945 ,7938 ,7932 ,7932 ,7908 | 179 186 187 191 193 | +,017 +,012 +,006 +,007 +,011 | - ,01 - ,21 - ,15 + ,01 - ,04 |
| 1831 1832 1833 1834 1835 | 2 3 3 | +58 50 51,64 +23 43 26,73 -19 10 1,86 +30 16 43,01 -26 10 39,44 | 15,805 15,816 15,837 | +9,8756 +9,8096 +9,3201 +9,8351 +9,0755 | +9,5019 $-9,4127$ $+9,6006$ | ,1988 ,1991 ,2000 | +9,7898 ,7889 ,7884 ,7874 ,7871 | 205 200 199 210 204 | +,009 -,001 +,023 +,026 | - ,01 - ,01 - ,08 - ,14 + ,02 |
| 1836 1837 1838 1839 1846 | 2 3 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 15,859 15,888 15,883 | +8,9445 +9,6946 | -9,5784 +8,9123 +9,8411 | ,2003 ,2010 ,2009 | +9,7869 ,7864 ,7851 ,7853 ,7831 | 206 207 216 221 218 | +,019 | ,10 |
| 1841 1842 1844 1844 | 2 3 3 3 4 1 | +65 0 30,55 +38 34 54,0 + 1 24 8,6 +64 51 13,3 -22 40 5,1 | 9 15,972 8 15,990 4 15,987 | +9,6522 | $\begin{vmatrix} +9,6964 \\ +8,2956 \\ +9,8586 \end{vmatrix}$ | 2033 0 ,2038 6 ,2037 | +9,7830 ,7813 ,7803 ,7805 ,7783 | 228 227 236 | $\begin{array}{c c} +,017 \\ +,011 \\ +,044 \end{array}$ | $\begin{bmatrix} - & 12 \\ - & 03 \\ - & 13 \end{bmatrix}$ |

| No. | Star's name and | Mag. | No. Obs. | Right Ascension | Annual Preces- | | Logari | thms of | |
|--------------------------------------|---|-----------------------------|-----------------------|---|---|--|--|--|--|
| | | | | Jan. 1, 1836. | sion. | a | b | c | d |
| 1846 1847 1848 1849 1850 | Capricorni Aquarii Capricorni | 8 8 8.9 9 | 1 3 3 2 3 | h. m. s. 21 32 17,06 32 29,28 32 45,03 33 31,97 33 45,14 | | +8,7609 ,7434 ,7276 ,7287 ,7347 | 8,6362 ,6179 ,6010 ,5990 ,6039 | +0,5312 ,5173 ,4867 ,4876 ,5046 | $\begin{bmatrix} -8,1717 \\ +6,7476 \end{bmatrix}$ |
| 1851 1852 1853 1854 1855 | Cygni Cephei Aquarii Cygni Pegasi | 6.7 7.8 7.8 8 7 | | 35 6,44 35 16,32 35 49,03 35 57,61 36 26,17 | 2,402 | +8,8163 ,9932 ,7338 ,8497 ,7658 | 8,6805 ,8568 ,5951 ,7107 ,6246 | +0,4014 ,2697 ,4973 ,3806 ,4395 | +8,5726 +8,9160 7,7115 +8,6606 +8,3409 |
| 1856 1857 1858 1859 1860 | Cygni Cephei Pegasi <i>seq</i> . Aquarii Pegasi | 8 7.8 8 8 7 | 2 2 3 2 | 37 3,09 37 16,80 37 37 49,34 38 31,01 | 2,653 1,869 2,751 3,134 2,710 | +8,7878 ,9977 ,7677 ,7362 ,7778 | 8,6442 ,8533 ,6218 ,5894 ,6281 | +0,4237 ,2716 ,4395 ,4961 ,4330 | +8,4601 +8,9213 +8,3447 -7,6648 +8,4013 |
| 1861 1862 1863 1864 1865 | Capricorni Pegasi Cephei Capricorni Aquarii | 8 7 8 9 8.9 | 2 1 3 | 38 52,67 38 56,12 39 44,91 39 50,80 39 58,49 | 3,301 2,712 1,138 3,402 3,069 | +8,7551 8,7782 9,1694 8,7752 8,7376 | 8,6038 8,6269 9,0154 8,6210 8,5820 | +0,5186 ,4333 ,0561 ,5317 ,4870 | -8,2165 +8,4011 +9,1375 -8,3770 -6,7064 |
| 1866 1867 1868 1869 1870 | Pegasi Capricorni Cephei | 7 7.8 7.8 8 8.9 | 2 2 3 2 2 | 40 13,92 41 17,05 41 24,25 42 4,28 43 10,31 | 2,927 2,593 3,299 3,405 1,907 | +8,7450 8,8110 8,7587 8,7796 +9,0069 | —8,5887 ,6503 ,5972 ,6156 ,8386 | +0,4664 ,4138 ,5184 ,5321 ,2803 | +8,0029 +8,5358 -8,2230 -8,3892 +8,9310 |
| 1871 1872 1873 1874 1875 | Cephei Capricorni Cygni Pegasi | 8 8 7 8.9 | 2 3 2 3 3 | 43 11,42 43 40,26 43 41,97 43 52,30 44 8,50 | 3,308 | +9,0081 8,7636 8,8792 8,7671 8,7558 | -8,8398 ,5932 ,7090 ,5958 ,5834 | +0,2794 ,51,96 ,3742 ,4487 ,4600 | 8,2493 |
| 1876 1877 1878 1879 1880 | Cephei Capricorni Cephei Pegasi Aquarii | 7.8 8 8 7.8 7.8 | 2 3 1 | 44 31,09 44 38,41 46 10,84 46 22,64 47 18,47 | 1,751 3,350 1,747 2,546 3,047 | +9,0514 8,7728 9,0580 8,8344 8,7471 | 8,8779 ,5982 ,8776 ,6529 ,5615 | | + 8,9912 8,3225 + 8,9992 + 8,5971 + 7,1975 |
| 1881 1882 1883 1884 1885 | Gruis Cephei Capricorni Pegasi Cephei | 8 7 7.8 7.8 8 | | 47 23,78 47 25,09 47 59,97 48 21,32 48 | 1,824 3,332 | +8,8536 9,0425 8,7746 8,8369 8,9702 | 8,6677 ,8570 ,5863 ,6472 ,7839 | +0,5622 ,2610 ,5227 ,4070 ,2206 | 8,6479 +8,9782 8,3076 +8,5998 +8,8740 |
| 1886 1887 1888 1889 1890 | Pegasi Cephei Aquarii | 7.8 7.8 7.8 7 8 | 2 | 48 44,15 48 55,62 49 21,60 49 22,77 51 1,98 | 2,799 1,655 2,006 | +8,7770 -,7770 9,0920 9,0001 8,7547 | -8,5856 ,5848 ,8984 ,8063 ,5538 | | |

| No. | No. | Declination Jan. 1, 1836. | Annual Preces- | | Logarith | ıms of | | zi No. | Annual | Р. М. |
|--------------------------------------|-----------------------|---|--|---|--|---|---|---------------------------------|---|---|
| | Obs. | | sion. | a' | 6' | c' | d' | Piazzi | A. R. | Decn. |
| 1846 1847 1848 1849 1850 | 3 4 3 4 2 | -22 24 9,74 -15 35 2,16 + 0 33 54,08 - 0 23 50,82 - 9 12 28,89 | + 16,032 16,042 16,057 16,097 16,112 | +9,2380 +9,4099 +9,6434 +9,6335 +9,5224 | -9,4837 -9,3323 +7,9115 -7,7109 -9,1082 | +1,2050 ,2053 ,2056 ,2068 ,2071 | +9,7783 ,7778 ,7771 ,7751 ,7744 | 231 232 237 239 240 | s. +,036 +,008 +,010 +,014 -,002 | -,05 -,11 -,20 -,20 -,02 |
| 1851 1852 1853 1854 1855 | 4 2 3 3 3 | +34 45 50,74 +56 50 22,33 - 5 28 45,14 +40 18 2,24 +22 4 11,30 | 16,177 16,184 16,216 16,219 16,246 | +9,8407 +9,8639 +9,5752 +9,8519 +9,7938 | +9,6632 $+9,8300$ $-8,8856$ $+9,7190$ $+9,4834$ | +1,2089 ,2091 ,2099 ,2100 ,2107 | +9,7711 ,7708 ,7692 ,7690 ,7676 | 253 256 254 261 262 | +,017 +,002 +,007 +,008 +,006 | - ,14 + ,01 + ,03 - ,05 + ,02 |
| 1856 1857 1858 1859 1860 | | $ \begin{array}{rrrrr} +28 & 2 & 3,77 \\ +56 & 59 & 19,88 \\ +22 & 10 & 1,70 \\ -4 & 52 & 48,75 \\ +24 & 49 & 47,46 \end{array} $ | 16,277 16,287 16,308 16,318 16,354 | +9,8176 +9,8603 +9,7924 +9,5832 +9,8041 | +9,5819 +9,8335 +9,4874 -8,8393 +9,5352 | +1,2116 ,2118 ,2124 ,2127 ,2136 | +9,7661 ,7655 ,7644 ,7639 ,7620 | 267 277 274 272 279 | +,010 +,043 +,023 +,013 | - ,12 + ,01 - ,20 - ,17 - ,10 |
| 1861 1862 1863 1864 1865 | 4 1 3 3 | -16 49 57,22 +24 48 22,82 +68 18 11,33 -23 34 34,51 - 0 33 19,15 | 16,375 16,375 16,408 16,422 16,428 | +9,3944 +9,8035 +9,8414 +9,2279 +9,6325 | -9,3736 +9,5352 +9,8812 -9,5153 -7,8825 | ,2154 | +9,7609 ,7609 ,7591 ,7584 ,7580 | 280 284 293 286 287 | -,013 +,018 +,007 +,013 +,013 | - ,16 - ,10 - ,10 + ,03 - ,12 |
| 1866 1867 1868 1869 1870 | 2 4 4 | +10 25 4,87 $+32 2 17,33$ $-16 57 5,50$ $-24 1 45,40$ $+57 5 36,46$ | 16,438 16,492 16,502 16,532 16,584 | +9,7251 +9,8261 +9,3979 +9,2201 +9,8500 | +9,1718 +9,6401 -9,3798 -9,5259 +9,8419 | +1,2159 ,2173 ,2175 ,2183 ,2197 | +9,7575 ,7546 ,7540 ,7524 ,7494 | 289 299 296 301 309 | +,020 +,012 +,007 +,019 +,004 | - ,16 + ,09 - ,22 - ,06 + ,03 |
| 1871 1872 1873 1874 1875 | 4 4 3 | $\begin{array}{c} +57 & 11 & 59,62 \\ -17 & 49 & 54,06 \\ +43 & 7 & 36,16 \\ +19 & 3 & 38,54 \\ +13 & 50 & 14,59 \end{array}$ | 16,610 16,607 16,620 | +9,8494 +9,3838 +9,8451 +9,7730 +9,7443 | +9,8424 -9,4041 +9,7533 +9,4331 +9,2986 | ,2204 ,2203 ,2206 | +9,7494 ,7479 ,7481 ,7474 ,7466 | 310 307 313 312 316 | +,002 +,021 +,022 +,012 +,012 | + ,03 + ,02 - ,04 - ,01 - ,05 |
| 1876 1877 1878 1879 1880 | 4 3 4 | $ \begin{vmatrix} +60 & 30 & 34,89 \\ -20 & 46 & 55,83 \\ +60 & 50 & 57,10 \\ +35 & 21 & 24,93 \\ +1 & 35 & 18,29 \end{vmatrix} $ | 16,659 16,727 16,739 | +9,8432 +9,3201 +9,8401 +9,8274 +9,6522 | | ,2216 ,2234 ,2237 | ,7411 ,7401 | 318 317 328 325 330 | +,028 +,012 +,017 +,015 +,008 | - ,08 + ,03 + ,04 - ,15 - ,03 |
| 1881 1882 1883 1884 1885 | 3 4 4 | -38 31 56,97 +59 33 17,04 -19 58 0,06 +35 22 19,11 +53 13 35,86 | 16,788 16,819 16,836 | -7,0000 +9,8395 +9,3463 +9,8248 +9,8432 | +9,8587 $-9,4568$ $+9,6871$ | ,2250 ,2258 ,2262 | ,7375 ,7355 ,7345 | 329 334 333 337 335 | +,029 +,023 +,007 +,004 | - ,11 - ,02 - ,13 - ,15 - ,02 |
| 1886 1887 1888 1889 1890 | 3 3 2 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 16,864 16,879 16,882 | +9,7745 +9,7745 +9,8306 +9,8388 +9,5635 | $\begin{array}{c c} +9,4673 \\ +9,8752 \\ +9,8433 \end{array}$ | ,2269 ,2273 ,2274 | ,7328 ,7318 ,7316 | 339 342 349 347 350 | | -,06 -,10 -,03 -,05 -,04 |

| No. | Star's name and | Mag. | No. Obs. | Asce | ght | Annual Preces- | | Logari | thms of | |
|--------------------------------------|--|---------------------------|---|------------------------------|--|--|---|---|---|--|
| | | | | Jan. | , 1836. | sion. | a | ь | c | d |
| 1891 1892 1893 1894 1895 | Aquarii ——————————————————————————————————— | 8 8 8 7.8 8 | $\frac{3}{2}$ | h. m 21 51 51 52 52 | 19,10 36,63 55,66 19,33 | s. +3,301 3,066 3,409 3,301 2,724 | +8,7739 ,7521 ,7980 ,7755 ,7997 | 8,5717 ,5487 ,5932 ,5690 ,5921 | +0,5186 ,4866 ,5326 ,5186 ,4352 | -8,2674 +6,2158 -8,4362 -8,2720 +8,4418 |
| 1896 1897 1898 1899 1900 | Aquarii Cygni Pegasi Aquarii Cephei | 8 7.8 8 7.8 | 1 1 2 3 2 | 53 53 53 | 18,11 25,84 42,87 47,54 53,98 | 3,091 2,281 2,726 3,436 1,997 | +8,7543 8,9317 8,8011 8,8079 9,0174 | 8,5439 ,7207 ,5890 ,5955 ,8047 | +0,4901 ,3581 ,4355 ,5360 ,3004 | -7,2748 +8,8051 +8,4440 -8,4770 +8,9405 |
| 1901 1902 1903 1904 1905 | Pegasi Aquarii ——————————————————————————————————— | 7 8 7.8 8.9 8 | 2 3 3 2 4 | 54 55 55 | 1,70 | 2,943 3,088 3,355 3,237 3,459 | +8,7617 ,7552 ,7906 ,7691 ,8200 | —8,5485 ,5414 ,5728 ,5501 ,5939 | +0,4688 ,4897 ,5257 ,5101 ,5389 | +8,0099 -7,2231 -8,3744 -8,1461 -8,5168 |
| 1906 1907 1908 1909 1910 | Pegasi Aquarii Pegasi Piscis Aust. | 8 7 7.8 7.8 7 | 2 2 3 1 1 | 57 57 58 58 | 38,16 6,39 18,31 | 3,006 3,004 3,355 3,016 3,519 | +8,7606 ,7609 ,7956 ,7610 ,8416 | -8,5322 ,5319 ,5643 ,5292 ,6060 | +0,4780 ,4777 ,5257 ,4794 ,5464 | +7,7165 +7,7291 -8,3878 +7,6476 -8,5881 |
| 1911 1912 1913 1914 1915 | Lacertæ Aquarii Pegasi | 7 7 8 8 7.8 | $\begin{bmatrix} 2\\1\\3 \end{bmatrix}$ | 59 59 59 59 22 (| 29,41 38,77 49 | 2,412 3,403 3,152 2,621 2,768 | +8,9062 ,8095 ,7646 ,8415 ,8017 | -8,6706 ,5724 ,5269 ,6032 ,5623 | +0,3824 ,5319 ,4986 ,4185 ,4422 | +8,7506 -8,4597 -7,8597 +8,5863 +8,4150 |
| 1916 1917 1918 1919 1920 | Aquarii Cephei Lacertæ Cephei | 8 7 7 8 7.8 | 3 2 1 3 2 | <u> </u> | 0 16,53 0 49,47 1 38,66 2 58,35 6 5,50 | 3,073 3,046 2,011 2,472 2,004 | +8,7620 8,7628 9,0397 8,8965 9,0468 | -8,5213 ,5196 ,7935 ,6441 ,7941 | +0,4876 ,4837 ,3034 ,3930 ,3019 | $ \begin{array}{r} -6,6407 \\ +7,2947 \\ +8,9684 \\ +8,7253 \\ +8,9776 \end{array} $ |
| 1921 1922 1923 1924 1925 | Aquarii Gruis Cephei Pegasi | 8 7 6.7 7.8 | 1 3 2 3 1 | 4. 4. | \$ 50,36 5 33,06 | 2,242 3,650 1,787 2,640 2,971 | +8,7803 8,8964 9,1149 8,8480 8,7729 | -8,5262 ,6366 ,8545 ,5840 ,5074 | +0,5108 ,5623 ,2521 ,4216 ,4729 | -8,1938 -8,7230 +9,0661 +8,5935 +7,9526 |
| 1926 1927 1928 1929 1930 | Aquarii Pegasi Cephei Aquarii | 8 7 7.8 7.8 9 | 3 2 3 2 3 | | 37,93 7 7,85 7 16,85 | 3,389 5,138 2,793 1,857 3,273 | +8,8172 8,7713 8,8069 9,1048 8,7912 | -8,5510 ,5025 ,5356 ,8332 ,5190 | +0,5301 ,4966 ,4461 ,2688 ,5149 | $ \begin{array}{r} -8,4705 \\ -7,8162 \\ +8,4082 \\ +9,0528 \\ -8,2811 \end{array} $ |
| 1931 1832 1933 1934 1935 | Cephei Pegasi Lacertæ Pegasi Aquani | 6.7 7.8 8 7.8 | 3 | ; ; ; 1(| 9 14,80 9 2,98 | 1,878 2,733 2,463 2,924 3,168 | +9 1043 8,8268 8,9165 8,7836 8,786 | ,5463 ,6358 ,4989 ,4904 | +0,2737 ,4366 ,3915 ,4660 ,5008 | +9,0517 +8,5038 +8,7606 +8,1406 -7,9870 |

| No. | No. | Declination 1000 | Annual Preces- | | Logarith | nms of | | zi No. | Annual | P. M. |
|--------------------------------------|---|--|--|---|--|---|---|---------------------------------|---|---|
| | Obs. | Jan. 1, 1836. | sion. | a' | <i>b'</i> | c' | d' | Piazzi | A. R. | Decn. |
| 1891 1892 1893 1894 1895 | 3 3 3 2 4 | -18 10 3,88 + 0 8 26,99 -25 47 33,26 -18 17 56,69 +26 0 1,91 | + 16,977 16,988 17,004 17,023 17,035 | +9,3909 +9,6395 +9,2068 +9,3909 +9,7931 | -9,4213 +7,3919 -9,5668 -9,4256 +9,5715 | | +9,7256 ,7248 ,7238 ,7226 ,7218 | 352 353 354 356 359 | s. +,029 +,016 +,014 +,019 +,017 | -,01 -,08 -,12 +,04 +,02 |
| 1896 1897 1898 1899 1900 | 4 3 2 3 3 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 17,065 17,072 17,083 17,088 17,090 | +9,6191 +9,8319 +9,7924 +9,1461 +9,8293 | -8,4507 +9,8037 +9,5735 -9,5997 +9,8539 | +1,2321 ,2323 ,2326 ,2327 ,2327 | +9,7197 ,7193 ,7185 ,7183 ,7181 | 364 368 369 367 373 | +,030 +,010 +,006 +,009 +,026 | + ,06 - ,04 - ,05 - ,06 + ,07 |
| 1901 1902 1903 1904 1905 | 3 3 3 4 | +10 11 8,85 - 1 42 21,08 -22 34 12,21 -13 48 29,44 -29 51 55,35 | 17,094 17,102 17,144 17,156 17,231 | +9,7160 +9,6222 +9,3053 +9,4742 +9,0864 | +9,1791 8,3990 9,5159 9,3095 9,6311 | +1,2329 ,2330 ,2341 ,2344 ,2363 | +9,7177 ,7173 ,7143 ,7135 ,7082 | 370 371 377 379 384 | +,005 +,012 +,016 +,003 +,003 | - ,16 + ,03 + ,02 - ,10 |
| 1906 1907 1908 1909 1910 | 4 4 5 3 3 | + 5 10 15,74 + 5 18 52,62 -23 2 11,24 + 4 23 53,64 -33 55 29,76 | 17,261 17,284 17,291 | +9,6794 +9,6803 +9,3032 +9,6739 +8,9031 | +8,8908 $+8,9033$ $-9,5279$ $+8,8224$ $-9,6832$ | ,2371 ,2377 | +9,7065 ,7061 ,7044 ,7040 ,7011 | 390 391 393 395 398 | +,012 +,013 -,001 +,006 +,031 | - ,13 - ,19 + ,12 - ,12 + ,04 |
| 1911 1912 1913 1914 1915 | 3 | +44 18 58,77 -26 34 0,41 - 7 10 54,25 +33 43 15,23 +24 13 6,47 | 17,329 17,343 17,349 17,355 17,367 | +9,8202 +9,2148 +9,5670 +9,8055 +9,7789 | $\begin{array}{r} +9,7812 \\ -9,5874 \\ -9,0324 \\ +9,6822 \\ +9,5510 \end{array}$ | | +9,7011 ,7001 ,6996 ,6992 ,6983 | 404 400 403 409 411 | +,018 -,018 +,015 +,008 | - ,03 + ,07 - ,05 + ,06 + ,03 |
| 1916 1917 1918 1919 1920 | $\begin{vmatrix} 3\\2\\4 \end{vmatrix}$ | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 17,404 17,434 17,494 | +9,6335 +9,6532 +9,8122 +9,8122 +9,8082 | -7,8167 +8,4705 +9,8681 +9,7697 +9,8717 | +1,2400 ,2407 ,2414 ,2429 ,2429 | +9,6974 ,6954 ,6932 ,6885 ,6883 | 412 417 4 8 12 | -,001 +,010 +,015 +,004 +,021 | - ,19 - ,05 - ,06 + ,07 + ,11 |
| 1921 1922 1923 1924 1925 | 3 3 | $ \begin{vmatrix} -15 & 1 & 57,76 \\ -42 & 9 & 18,03 \\ +63 & 19 & 2,44 \\ +33 & 47 & 53,38 \\ +8 & 40 & 8,93 \end{vmatrix} $ | 17,564 17,570 17,602 | +9,4669 -7,0000 +9,7959 +9,7966 +9,6998 | -9,3548 -9,7693 +9,8940 +9,6891 +9,1237 | ,2446 ,2448 ,2455 | +9,6872 ,6828 ,6824 ,6796 ,6784 | 7 18 24 29 30 | +,016 + 074 +,018 +,018 +,011 | - ,16 - ,61 - ,02 - ,10 - ,05 |
| 1926 1927 1928 1929 1930 | 3 2 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 17,648 17,670 17,672 | +9,2380 +9,5786 +9,7679 +9,7910 +9,4265 | +9,5465 +9,8933 | ,2467 ,2472 ,2473 | | 25 35 39 42 38 | +,008 +,016 +,010 -,005 +,017 | + ,01 ,06 + ,05 + ,03 + ,08 |
| 1931 1932 1933 1934 1935 | 3 4 2 | $ \begin{vmatrix} +62 & 21 & 2,46 \\ +28 & 21 & 26,18 \\ +44 & 16 & 26,93 \\ +13 & 8 & 1,90 \\ -9 & 19 & 25,97 \end{vmatrix} $ | 17,752 17,754 17,789 | +9,7803 | +9,6-43 $+9,7914$ $+9,3052$ | ,2492 ,2493 ,2502 | ,6668 ,6666 ,6634 | 53 52 55 57 59 | +,009 +,013 | + ,07 + ,01 - ,04 - ,07 - ,09 |

| No. | Star's name and M | Iag. | No. | As | Rigi | sion | Annual Preces- | | Logarit | hms of | Andrews and State of |
|--------------------------------------|--|-----------------------------|-----------------------|--|----------------|---|--|---|---|---|---|
| | | | | Jan | . 1, | 1836. | sion. | a | ь | С | d |
| 1936 1937 1938 1939 1940 | Pegasi Lacertæ Pegasi Aquarii | 7 7 7 7 7 7 | 3 2 2 2 2 | h. 22 | 11 11 12 | s. 56,84 45,32 41,37 48,76 | s. +2,856 2,925 2,611 2,926 3,142 | +8,7977 ,7851 ,8711 ,7863 ,7780 | 8,5089 ,4942 ,5789 ,4894 ,4805 | +0,4558 ,4661 ,4168 ,4663 ,4972 | +8,3140 +8,1459 +8,6502 +8,1460 -7,8660 |
| 1941 1942 1943 1944 1945 | Pegasi Aquarii Lacertæ Cephei | 7 8 7.8 7.8 7.8 | 2 2 2 3 3 | | 15 15 | 9,95 17,15 27,09 34,92 16,69 | 2,986 3,009 3,182 2,644 1,964 | +8,7792 8,7793 8,7853 8,8685 9,1200 | -8,4798 ,4700 ,4751 ,5580 ,7913 | +0,4751 ,4784 ,5027 ,4223 ,2931 | +7,9127 +7,7788 -8,0659 +8,6362 +9,0689 |
| 1946 1947 1948 1949 1950 | Pegasi Cephei Aquarii | 7.8 8 7 8 8.9 | 3 2 2 3 2 | | 20 20 20 | 25,66 16,24 18,21 24,93 39,06 | 3,032 2,730 1,987 3,172 3,172 | +8,7817 8,8486 9,1174 8,7892 8,7893 | -8,4524 ,5150 ,7838 ,4545 ,4536 | +0,4817 ,4360 ,2982 ,5013 ,5013 | +8,5607 +9,0654 -8,0518 |
| 1951 1952 1953 1954 1955 | Piscis Aust. Aquarii Pegasi Aquarii | 9 8.9 8.9 7.8 | | | 22 22 22 | 45,66 11,38 11,53 22,69 24,66 | 3,034 | ,7843 | ,5172 ,4487 ,4399 | ,5352 ,50 2 4 ,48?0 | -8,5986 -8,0898 +7,5720 |
| 1956 1957 1958 1959 1960 | Aquarii Piscis Aust. | 8 7 9 7.8 | 4 3 4 2 3 | | 24 26 26 | 24,22 12,34 34,65 58,14 24,49 | 3,312 3,278 | ,8194 | -8,4488 ,4541 ,4632 ,4515 ,4914 | ,5201 ,5156 | -8,3049 -8,4520 |
| 1961 1962 1963 1964 1965 | Aquarii Lacertæ — pre. Piscis Aust. Aquarii | 7.8 8 7 8.9 8 | 3 | The state of the s | 28 28 28 | 51,10 10,48 59,47 46,11 | 2,651 2,652 3,346 | ,8440 | ,5223 ,5208 ,4659 | ,4236 ,5245 | -8,3926 +8,6927 +8,6938 -8,5197 -7,6814 |
| 1966 1967 1968 1969 1970 | Aquarii Piscis Aust. Pegasi Aquarii Cephei | 8 8 8 8 | 23932 | | 32 32 33 | 18,93 21,90 45,36 21,81 22,35 | 3,333 2,947 3,163 | 8,8459 8,8044 8,8002 | | ,4694 | +8,1793 -8,0789 |
| 1971 1972 1973 1974 1975 | Aquarii | 9 9 9 9 8.9 | 3 3 4 4 4 | | 34 36 36 | 37,33 51,40 1,54 31,85 42,91 | 3,147 3,139 3,138 | ,7991 ,7989 ,7993 | -8,3898 ,3885 ,3820 ,3793 ,3759 | ,4979 ,4968 ,4966 | -7,9661 $-7,9639$ |
| 1976 1977 1978 1979 1980 | Lacertæ Aquarii | 8 8 7.8 9 8 | 3 3 2 4 3 | | 39 39 39 | 56,24 11,54 24,48 30,49 50,12 | 2,601 3,109 3,240 | ,95(0 ,7983 ,8252 | -8,4284 ,5150 ,3617 ,3879 ,4319 | ,4151 ,4926 ,5105 | +8,8025 -7,7443 |

| No. | No. Obs. | Declination Jan. 1, 1836. | Annual Preces- | | Logarith | ms of | | zi No. | Annua | l P. M. |
|--------------------------------------|-----------------------|---|--|--|---|---|---|---------------------------------|---|---|
| | | | sion. | a' | <i>b</i> ′ | c' | d' | Piazzi | A. R. | Decn. |
| 1936 1937 1938 1939 1940 | 3 2 3 4 4 | +19 8 45,05 +13 15 0,34 +36 56 52,96 +13 12 42,36 - 7 3 55,81 | 17,824 17,843 17,853 17,893 17,898 | $ \begin{array}{r} +9,7482 \\ +9,7218 \\ +9,7924 \\ +9,7202 \\ +9,5752 \end{array} $ | +9,4653 +9,3102 +9,7289 +9,3104 -9,0388 | +1,2510 ,2515 ,2517 ,2527 ,2528 | +9,6602 ,6585 ,6575 ,6538 | 60 62 65 69 68 | s. +,016 +,004 +,008 +,005 | - ,08 - ,11 + ,06 - ,01 - ,01 |
| 1941 1942 1943 1944 1945 | 4 4 4 4 | + 7 47 58,66 + 5 42 53,06 -11 1 25,15 +35 49 48,51 +62 44 20,63 | 17,913 17,995 18,002 18,005 18,146 | +9,6911 +9,6776 +9,5340 +9,7846 +9,7612 | +9,0848 +8,9527 -9,2339 +9,7211 +9,9057 | +1,2532 ,2551 ,2553 ,2554 ,2588 | +9,6518 ,6439 ,6431 ,6429 ,6281 | 73 82 83 87 109 | +,010 +,015 +,004 +,018 +,015 | - ,15 - ,01 - ,10 00 + ,03 |
| 1946 1947 1948 1949 1950 | 4 2 3 2 3 | + 3 41 22,47 +31 0 16,66 +62 29 44,43 —10 34 20,81 —10 29 56,06 | 18,150 18,183 18,182 18,190 18,197 | +9,6628 +9,7701 +9,7581 +9,5428 +9,5453 | +8,7667 +9,6697 +9,9055 -9,2205 -9,2180 | +1,2589 ,2597 ,2597 ,2598 ,2600 | ,6240 ,6240 | 106 113 115 110 114 | +,011 +,014 +,002 +,014 +,015 | - ,02 - ,04 + ,05 - ,15 - ,08 |
| 1951 1952 1953 1954 1955 | 3 2 4 4 3 | -25 0 22,75 -33 11 30,57 -11 27 48,14 + 3 29 42,77 -11 26 37,57 | 18,239 18,253 18,253 18,260 18,262 | +9,3385 +9,1367 +9,5353 +9,6609 +9,5353 | 9,5847 9,6974 9,2572 +8,7473 9,2567 | | +9,6177 ,6161 ,6161 ,6152 ,6149 | 119 124 125 127 126 | +,010 +,039 +,012 +,007 +,003 | - ,07 + ,02 - ,01 - ,08 - ,03 |
| 1956 1957 1958 1959 1960 | 5 3 4 2 | -14 26 5,83 -18 20 26,43 -24 50 12,50 -21 46 47,23 -32 29 16,05 | 18,297 18,325 18,409 18,423 18,436 | +9,5024 +9,4548 +9,3579 +9,4099 +9,1931 | —9,3565 —9,4584 —9,5860 —9,5325 —9,6935 | +1,2624 ,2630 ,2650 ,2653 ,2657 | +9,6110 ,6076 ,5972 ,5954 ,5937 | 133 138 146 148 154 | +,007 +,003 +,007 +,015 -,002 | - ,01 + ,03 - ,11 - ,04 + ,01 |
| 1961 1962 1963 1964 1965 | 4 2 1 4 3 | -21 56 14,58 +38 44 19,23 +38 46 51,87 -28 17 33,19 - 4 27 27,57 | 18,452 18,461 18,475 18,488 18,551 | +9,4082 +9,7649 +9,7642 +9,2988 +9,064 | -9,5361 +9,7608 +9,7616 -9,6405 -8,8562 | ,2663 ,2666 | | 155 159 163 162 171 | +,014 +,041 +,056 +,014 | + ,03 ,12 ,26 ,01 ,09 |
| 1966 1967 1968 1969 1970 | 5 4 1 2 3 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 18,601 18,603 18,614 18,634 18,634 | +9,6064 +9,3181 +9,7067 +9,5514 +9,7372 | -8,8508 -9,6404 +9,3428 -9,2470 +9,8900 | +1,2695 ,2696 ,2698 ,2703 ,2703 | ,5692 ,5663 | 183 182 186 188 194 | +,008 +,002 +,032 +,012 +,043 | - ,12 + ,03 - ,02 - ,07 + ,14 |
| 1971 1972 1973 1974 1975 | 3 4 4 4 3 | - 4 19 40,33 - 9 16 26,40 - 8 28 30,16 - 8 25 28,09 - 10 33 22,24 | 18,644 18,683 18,718 18,735 18,772 | +9,6085 +9,5682 +9,5763 +9,5763 +9,5587 | —8,8435 —9,1756 —9,1375 —9,1353 —9,2328 | ,2714 | ,5547 ,5589 ,5533 ,5507 ,5447 | 191 204 206 208 213 | +,017 +,008 +,008 +,018 +,010 | - ;27 + ,01 - ,03 + ,04 - ,23 |
| 1976 1977 1978 1979 1980 | 4 3 2 4 3 | +29 35 49,40 +45 21 12,67 — 5 5 35,50 —20 33 33,30 —33 40 8,50 | 18,777 18,814 18,821 18,826 18,867 | +9,7405 +9,7404 +9,6042 +9,4564 +9,2405 | +9,6658 +9,8250 -8,9187 -9,5178 -9,7171 | +1,2736 ,2745 ,2747 ,2748 2,757 | +9,5436 ,5375 ,5361 ,5354 ,5285 | 214 222 220 221 224 | -,011 +,021 +,018 +,002 +,019 | - ,45 - ,11 - ,24 - ,18 + ,07 |

| No. | Star's name and | Mag. | No. | | Rigi | sion | Annual Preces- | | Logari | thms of | anness. Remembershire gangessteren |
|--|---|-----------------------------|-----------------------|----------|----------------|---|--|---|--|---|--|
| | | | | Jan | . 1, | 1836. | sion. | a | <u>b</u> | С | d |
| 1981 1982 1983 1984 1985 | Aquarii Pegasi Aquarii Andromedæ | 8.9 8 8 9 | 3 4 5 4 3 | h. 22 | 44 | s. 40,78 12,66 14,73 1,27 2,84 | s. +3,133 3,048 3,109 3,106 2,749 | +8,8027 ,8003 ,8025 ,8054 ,9101 | —8,3527 ,3348 ,3304 ,3023 ,4075 | +0,4960 ,4840 ,4926 ,4922 ,4392 | -7,9629 +7,4734 -7,7841 -7,7750 +8,7046 |
| 1986 1987 1988 1989 1990 | Pegasi Cephei Aquarii Pegasi | 7.8 8 8 7.8 7.8 | 1 2 1 4 | | 50 51 51 | 26,81 52,83 22,16 31,33 31,41 | 3,023 $-0,667$ $+3,091$ $3,268$ $3,023$ | +8,8065 9,7798 8,8049 8,8544 8,8071 | 8,3012 9,2728 8,2934 8,3415 8,2943 | +0,4804 -9,8241 +0,4901 0,5143 0,4804 | +7,8592 +9,7774 -7,5651 -8,5112 +7,8610 |
| 1991 1992 1993 1994 1995 | Pegasi Andromedæ Aquarii Pegasi | 8 8 8 8 | 5 1 2 4 4 | | 52 52 | 49,82 6,26 33,33 27,80 9,52 | 3,023 2,580 3,237 2,965 2,955 | +8,8073 9,0100 8,8431 8,8218 8,8289 | —8,2927 ,4936 ,3230 ,2892 ,2695 | +0,4804 ,4116 ,5101 ,4720 ,4706 | +7,8634 +8,9033 -8,4464 +8,2450 +8,3107 |
| 1996 1997 1998 1999 20 00 | Pegasi Aquarii Pegasi ——— Piscium | 8 8.9 8.9 7.8 | | 23 | 59 59 2 | 23,99 54,45 58,86 24,63 54,11 | 2,946 3,128 2,878 3,016 3,045 | +8,8326 ,8154 ,8663 ,8154 ,8115 | —8,2711 ,2424 ,2934 ,2234 ,2152 | +0,4692 ,4953 ,4591 ,4794 ,4836 | + 8,3463 8,0500 + 8,5494 + 8,0057 + 7,6693 |
| 2001 2002 2003 2004 2005 | Aquarii Piscium Aquarii | 8.9 7.8 8.9 7.8 | 3 3 3 2 | | 4 5 5 5 | 55,63 25,70 11,24 18,49 42,62 | 3,062 3,127 3,033 3,061 3,243 | +8,8110 ,8183 ,8141 ,8116 ,8713 | -8,2067 ,2102 ,1999 ,1959 ,2522 | +0,4860 ,4951 ,4819 ,4859 ,5109 | +7,1135 -8,0762 +7,8544 +7,1838 -8,5614 |
| 2006 2007 2008 2009 2010 | Pegasi Piscium Aquarii Pegasi | 7.8 8 8 8 8 | 3 4 2 3 3 | | 7 7 8 | 51,69 15,03 50,76 58,37 13,41 | 2,962 3,066 3,238 2,974 2,924 | +8,8355 ,8124 ,8732 ,8330 ,8627 | 8,2153 ,1804 ,2360 ,1952 ,2048 | +0,4716 ,4866 ,5103 ,4733 ,4660 | +8,3430 +6,6911 -8,5662 +8,3083 +8,5155 |
| 2011 2012 2013 2014 2015 | Pegasi Aquarii Piscium Pegasi Andromedæ | 7.8 9 8 7 7.8 | 4 3 2 2 3 | | 10 10 | 27,47 28,73 29,61 35,41 13,66 | 2,924 3,141 3,046 2,950 2,830 | +8,8629 ,8275 ,8151 ,8500 ,9359 | -8,2026 ,1672 ,1549 ,1794 ,2597 | +0,4660 ,4971 ,4837 ,4698 ,4518 | + 8,5159 8,2207 + 7,7146 + 8,4410 + 8,7518 |
| 2016 2017 2018 2019 2020 | Pegasi Aquarii Piscium Pegasi Aquarii | 7.8 8.9 8 9 | 3 3 4 5 5 | | 14 16 16 | 55,09 28,43 1,50 38,25 47,52 | 2,940 3,122 3,045 2,964 3,128 | +8,8605 ,8244 ,8178 ,8508 ,8294 | -8,1677 ,1263 ,1038 ,1313 ,0973 | +0,4683 ,4944 ,4836 ,4719 ,4953 | +8,4982 8,1296 +7,7847 +8,4355 8,2079 |
| 2021 2022 2023 2024 2025 | Aquarii Piscium Gruis | 8.9 8.9 8.9 8 | 4 3 3 4 | | 18 19 21 | 53,06 54,29 55,57 11,88 41,68 | 3,166 3,126 3,047 3,048 3,273 | +8,8497 ,8297 ,8191 ,8195 ,9528 | 8,1162 ,0855 ,0639 ,0501 ,1780 | +0,5005 ,4950 ,4839 ,4840 ,5149 | -8,4245 -8,2072 +7,7764 +7,7796 -8,7855 |

| No. | No. Obs. | Declination | Annual Preces- | | | zi No. | Annual | P. M. | | |
|--------------------------------------|---|--|--|--|--|---|---|---------------------------------|---|--|
| | Obs. | Jan. 1, 1836. | sion. | a' | b' | c' | d' | Piazzi | A. R. | Decn. |
| 1981 1982 1983 1984 1985 | 4 4 4 3 4 | - 8 19 28,87 + 2 41 0,03 - 5 31 40,98 - 5 22 43,20 +38 30 48,24 | + 18,890 18,962 18,993 19,122 19,121 | +9,5809 +9,6513 +9,6042 +9,6064 +9,7210 | -9,1337 +8,6490 -8,9582 -8,9492 +9,7740 | +1,2762 ,2779 ,2786 ,2815 ,2815 | +9,5242 ,5104 ,5045 ,4765 ,4769 | 228 237 242 259 260 | s. +,012 +,018 +,029 +,014 -,006 | - ,13 - ,04 - ,09 |
| 1986 1987 1988 1989 1990 | 2 3 3 1 5 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 19,160 | +9,6665 +9,5331 +9,6191 +9,4048 +9,6674 | +9,0325 +9,9775 -8,7405 -9,6372 +9,0343 | +1,2817 ,2819 ,2823 ,2824 ,2824 | +9,4745 ,4729 ,4688 ,4676 ,4676 | 263 280 269 270 271 | +,008 ,000 +,010 +,023 +,012 | - ,08 + ,03 - ,01 - ,17 - ,08 |
| 1991 1992 1993 1994 1995 | | $\begin{array}{c} + \ 6 \ 30 \ 22,88 \\ + 51 \ 25 \ 35,35 \\ -23 \ 40 \ \ 3,80 \\ + 15 \ 21 \ \ 3,11 \\ + 17 \ 37 \ 51,53 \end{array}$ | 19,174 19,188 19,233 | +9,6674 +9,6972 +9,4487 +9,6928 +9,6937 | +9,0367 +9,8740 -9,5844 +9,4053 +9,4658 | ,2830 | +9,4659 ,4643 ,4609 ,4495 ,4246 | 273 276 277 283 300 | +,009 +,006 +,029 +,013 +,024 | - ,01 + ,09 + ,03 - ,16 + ,05 |
| 1996 1997 1998 1999 2000 | 4 3 3 | +19 1 34,83 9 53 43,97 +28 48 24,85 + 8 53 34,80 + 4 6 53,92 | 19,363 19,363 19,418 | +9,6955 +9,5832 +9,7024 +9,6693 +9,6532 | +9,4980 $-9,2196$ $+9,6681$ $+9,1765$ $+8,8443$ | ,2870 ,2870 ,2882 | +9,4228 ,4120 ,4120 ,3942 ,3902 | 301 307 309 3 5 | +,029 +,018 +,008 +,019 +,005 | + ,01 |
| 2001 2002 2003 2004 2005 | | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 19,461 19,477 19,480 | +9,6425 +9,5843 +9,6599 +9,6425 +9,4216 | $ \begin{array}{r} +8,2895 \\ -9,2451 \\ +9,0279 \\ +8,3598 \\ -9,6779 \end{array} $ | ,2895 ,2896 | | 10 12 13 15 16 | +,021 +,012 +,020 +,005 +,019 | + ,03 + ,03 |
| 2006 2007 2008 2009 2010 | 4 4 | $\begin{array}{c} +18 & 44 & 35,39 \\ +0 & 24 & 59,18 \\ -29 & 34 & 39,58 \\ +17 & 22 & 0,53 \\ +26 & 42 & 26,09 \end{array}$ | 19,519 19,531 19,533 | +9,6385 | $ \begin{array}{r} +9,4953 \\ +7,8672 \\ -9,6818 \\ +9,4641 \\ +9,6426 \end{array} $ | ,2905 ,2907 ,2907 | ,3564 ,3515 ,3510 | 20 21 25 27 38 | +,008 +,014 +,033 +,019 +,014 | $\begin{vmatrix} - & ,22 \\ - & ,19 \\ - & ,04 \end{vmatrix}$ |
| 2011 2012 2013 2014 2015 | $\begin{bmatrix} 2\\2\\2 \end{bmatrix}$ | +26 42 42,69 -14 20 47,42 + 4 30 50,01 +22 55 51,44 +40 51 31,24 | 19,581 19,581 19,601 | $ \begin{array}{r} +9,6848 \\ +9,5647 \\ +9,6532 \\ +9,6830 \\ +9,6656 \end{array} $ | -9,3830 $+8,8893$ $+9,5813$ | ,2918 ,2918 ,2923 | ,3296 ,3296 ,3197 | 44 41 43 48 54 | +,045 +,063 +,015 | - ,06 - ,26 - ,09 |
| 2016 2017 2018 2019 2020 | 4 4 3 | +25 42 52,96 -11 40 26,48 + 5 17 8,41 +22 34 50,14 -13 51 1,80 | 19,653 19,679 19,688 | +9,6794 +9,5866 +9,6532 +9,6739 +9,5775 | -9,2967 +8,9589 +9,5769 | ,2934 ,2940 ,2942 | ,2934 ,2780 ,2727 | 74 | $\begin{vmatrix} +,031 \\ +,013 \\ +,013 \end{vmatrix}$ | $\begin{vmatrix} + & ,21 \\ - & ,02 \\ + & ,07 \end{vmatrix}$ |
| 2021 2022 2023 2024 2025 | 3 5 3 | $\begin{array}{r rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$ | 19,725 19,741 19,760 | +9,5786 +9,6513 | -9,3700 $+8,950$ $+8,9539$ | 7 9 ,2958 | ,2489 ,2382 ,2243 | 80 85 93 98 99 | $\begin{vmatrix} +,008 \\ +,016 \\ +,028 \end{vmatrix}$ | $\begin{vmatrix} + & 03 \\ 5 & - & 19 \\ 5 & - & 43 \end{vmatrix}$ |

In addition to the foregoing catalogue—in the years 1836-1837, the places of several Stars—whose names only occur in Vols II and III—have been determined;—and several more—where the result of one observation only had been given, or where discordance among several observations had, occurred or where a large proper motion was observed;—in all these cases, a re-examination of former results has been instituted, and further observations (when necessary) made, as follows.

SUPPLIMENTARY CATALOGUE OF THE A. R. OF THE FIXED STARS.

| Re | ference. | Names. | | Mean A. 1836 | | Concluded Mean A. R | Ann | ual | REMARKS. |
|-----------------------------|---|--|--|---|--|--|--|--|--|
| No | . Vol. | | | former obs | present obs. | Jan. 1, 1836 | Precesn. | P. M. | |
| 2 | 2 of II 2 . III 5 . 11I 1 . II | 11 Cassiopeæ 61 Andromed. 96 Piscium Tucanæ 15 Cassiopeæ | β ζ κ | s. 6=28,10 3= 1,22 3=58.10 6=27,49 5=44,19 | s. 3=28,59 3= 1,17 1=57,90 3=29,38 3=44,50 | h. m. s. 0 0 28,32 5 1,20 8 58,05 11 23 44,31 | s. +3.069 3,090 3,075 2,920 3,324 | $ \begin{array}{c} s \\ +0.081 \\ -0.007 \\ -0.010 \\ +0.027 \end{array} $ | give the place of this star 23'46s: Can the pro- |
| 4. 4. 4. 5 2' | 5 . II 6 . II 1 . II | Tucanæ Piscium 117 Andromed. | β ¹ β ² β ⁸ | 6=59,50 3= 0,36 5=13.73 4= 7,83 2=29,82 | 2=59,83 2= 0,54 2=13,53 1= 8,02 3=30,10 | 23 59,58 24 0,43 25 13,67 27 7,87 28 29,99 | 2,786 2,786 2,771 3,064 3,139 | + ,008 + ,014 | $m \cdot s$ |
| 5. 5. 3 6. 9 | 6 . II 6 . III | Ceti Piscium 128 Andromed. Ceti Cephei | • | 4=55.00 $5=4.16$ $1=55,28$ $5=30,66$ $4=37,24$ | 3=55,01 $2=4,16$ $3=55,02$ $1=30,73$ $3=38,14$ | 28 55,00 29 4,16 32 55,09 34 30,67 47 37,63 | 2,988 3,074 3 150 2,991 6,468 | + ,110 + ,019 + ,027 + ,007 + ,197 | |
| 90 100 60 60 10 | 8 . II 7 . III | 38 Andromed. 74 Piscium μ Cassioneæ 190 Piscium† 27 Ceti | η ψ ^ι | 7=27,92 3=54,33 2=20,63 4=24,38 | $ \begin{array}{c c} 1 = 27,71 \\ 1 = 54,08 \\ 2 = 24,87 \\ 1 = 20,32 \\ 1 = 24,35 \end{array} $ | 48 27,89 56 54,27 57 24,87 57 20,53 57 24,37 | 3,183 3,191 3,526 3,092 3,005 | $\begin{vmatrix} - & ,003 \\ + & ,403 \end{vmatrix}$ | Piazzi says the P. M. =+ 5,70 |
| 11 8 12 | 0 . II 2 . II 1 . III 3 . II 2 . II | Phænicis 181 Andromed. Phænicis Phænicis Piscium | β ζ ζ ^ι | 8=51,59 6=45,45 1= 1,95 2=28,35 5=10,27 | $ \begin{array}{c cccc} 2 = 51,73 \\ 3 = 45,16 \\ 2 = 1,73 \\ 2 = 28,55 \\ 1 = 10,32 \end{array} $ | 57 51.62 58 45,35 1 1 1,80 1 28,45 5 10,28 | 3,005 2,698 3.377 2,542 3,112 | | · |
| 13 9 9 | 1 . III 5 . II 7 . III 8 . III 7 . II | b Ceti 88 Piscium control 0 Cassiopeæ 119 ——— 37 | 8 | 3= 8,59 6=11,00 3=48,94 2=12,98 9= 9,02 | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 6 8,56 6 11,00 9 49,02 10 14,97 15 9,06 | 3,009 3,108 3,696 3,890 3,790 | + ,009 + ,008 + ,087 | The star observed in 1835 was Piazzi No. 39— |
| 16 | | 242 Piscium Phœnicis Ceti Phœnicis | γ | 5 = 58.05 | l=14.71 2=47.55 2=14.27 3=57.73 3=24,95 | 15 14,48 19 47.58 21 14,32 21 57,93 24 24,97 | 3,096 3,124 2,619 2,836 2,497 | + ,006 + ,017 | |

^{*} This may arise from a variation of the proper motion having taken place.

| Reference | Names. | | Mean A. 1836 | , | Concluded Mean A. R. | Ann | nual | Remarks. |
|--|---|---------------------------|---|---|---|--|--|--|
| No. Vo | | | former obs. | present obs. | Jan. 1, 1836. | Precesn. | P. M. | |
| 170 of 1 176 . 1 178 . 1 133 . I 135 . II | I 51 Andromed. I I 102 Piscium I g Cassiopeæ | $rac{\mathrm{R}^2}{\pi}$ | s. $5 = 9,60$ $6 = 57.82$ $10 = 24.86$ $3 = 21,09$ $2 = 8,16$ | s. 3= 9,60 1=57,92 2=24.93 3=20,59 2= 8,35 | h. m. s. 1 26 9,60 27 57,84 28 24,87 30 20,84 31 8,25 | s. +3,169 3,617 3,168 4,468 2,817 | s. + ,010 + ,017 + ,004 + ,044 + ,021 | N. P. D. 20,13 |
| 138 . II 146 . II 194 . I 167 . II 170 . II | 1 e Rangifer. I 53 Ceti I 147 Cassiopeæ | χ^2 | $ \begin{array}{c} 1 = 17,86 \\ 3 = 39,92 \\ 6 = 32,12 \\ 2 = 57,26 \\ 1 = 4,46 \end{array} $ | 3 = 17.83 $4 = 40,53$ $6 = 31,97$ $2 = 57,53$ $3 = 5,43$ | 32 17,84 38 40,27 41 32,04 48 57,39 50 5,19 | 3,960 5,572 2,952 5,624 5,435 | + ,088 | 0 1 |
| 220 . I 181 . II 201 . II 205 . II 209 . II | 1 37 Arietis 1 b Andromed. 1 262 ——— | β | 9=51.64 3=21,75 1=58.23 2=16,29 1=40,97 | 2=51,92 3=21,89 3=58,14 2=16,49 1=41,26 | 53 51,70 54 21,82 2 2 58,16 4 16,39 5 41,11 | 3,630 3,369 3,717 3,835 2,641 | +,012 +,015 +,009 -,024 +,005 | |
| 1 | 1 41 Persei | o gi | 1=23,59 1= 8,99 6= 4,18 5= 2,17 | 1 = 23,57 $1 = 46,09$ $1 = 9.50$ $6 = 4,26$ $1 = 2,27$ | 6 23.58 7 46,09 10 9,25 11 4,22 16 2,19 | 3,395 4,141 3 908 3,021 3,197 | + ,020 + ,009 + ,018 + ,012 + ,008 | |
| 253 . II 238 . II 256 . I 248 . II 251 . II | I 46 Messoris I Eridani I Ceti | K | 5=34,38 4=13,35 8=58,36 | 3=34,30 4=14,24 3=58,43 4=16 53 3=51,94 | 18 34,35 19 13,80 20 58,38 23 16,53 25 51,94 | 3,487 5,236 2,199 2,846 3,604 | + ,027 - ,001 | N. P. D. 19,27 |
| 268 . I 253 . II 256 . II 279 . I 283 . I | $\begin{bmatrix} d^1 & \\ 418 & \end{bmatrix}$ | и | 5 = 5,87 $2 = 7,08$ $4 = 37,66$ $5 = 8,14$ | 5= 5,97 1= 6,86 4=18,74 5=37.07 3= 8,07 | 27 5,92 27 7,01 29 18,74 31 37,40 33 8,12 | 3.153 3,009 3,167 3,145 3,357 | $\begin{bmatrix} - ,005 \\ + ,021 \end{bmatrix}$ | the mean is erroneously stated to be 37,83s. in Vol. 11. |
| 295 . I 306 . I 286 . II 324 . I 325 . I | Fornacis 1 98 Persei 1 Horologii | β β θ | 5=13.72 $3=13,60$ $5=2,76$ | 4 = 6.06 1 = 13.77 3 = 13.27 2 = 2.47 | $ \begin{array}{r} 37 & 6,06 \\ 42 & 13,73 \\ 49 & 13,43 \\ 51 & \\ 52 & 2,68 \end{array} $ | 0,868 2,502 4,208 1,222 2,277 | + ,009 + ,005 | · · |
| 337 . I 340 . I 346 . I 356 . I 317 . II | I Persei I Arietis I 14 Eridani | | $ \begin{array}{c c} & \\ 6 & -16,45 \\ 5 & -43,73 \\ 5 & -39,45 \\ 1 & -28,96 \end{array} $ | 3=16,40 4=43,80 3=39,20 4=29,20 | 55 ——————————————————————————————————— | 2,663 4,138 3.535 2,899 3,981 | + ,146 + ,019 + ,002 | Not now visible! differs 4,28s. from A. S. C. |
| 318 . II 321 . II 329 . II 331 . II 332 . II | I 142 Persei I ——————————————————————————————————— | | 3=30,92 3=20,25 3= 1,05 3=27,48 6=30,90 | 3=31,33 3=38,38 2= 1,36 3=27,95 2=31,09 | 10 31 12 11 38.38 20 1.17 20 27,71 20 30,97 | 5,095 4,195 4,179 3,366 3,116 | + ,018 + ,010 + ,006 | A wrong star observed in 1835. Former observations discordant: 27,8s. is probably nearer the truth than the mean. |
| 333 . II 337 . II 341 . II 399 . I 358 . II | I 149 Eridani Persei I 41 ——— | v . | 3=35,11 3= 4,93 4=21,19 9= 4.68 3=43,89 | 4 = 35,12 $3 = 5,27$ $3 = 20.97$ $3 = 4,77$ $3 = 43,80$ | 20 35.11 22 5,10 27 21,10 34 4.70 35 43,84 | 4,187 2,056 3,690 4,035 2,381 | + ,004 - ,001 - ,003 + ,019 - ,002 | |

| | Reference. | Names. | Mean A. 1836 | | Concluded Mean A. R. | Anr | nual | REMARKS. |
|---|---|--|--|---|--|--|--|--|
| 1 | No. Vol. | | former obs. | present obs. | Jan. 1, 1836. | Precesn. | P. M. | |
| | 363 of III 365 . III 369 . III 373 . III 424 . II | 27 Psalt. Georg. 12 Pleiadum 118 Tauri 132 ———————————————————————————————————— | s. 4== 1==14,19 5==36,75 | s. 4=33,75 4=37,00 2=28,75 2=14,47 8=36,82 | h. m. s. 3 36 33,75 37 37,00 39 28,75 40 14,38 40 36,80 | s. +3,053 3,543 3,541 3,504 2,571 | s. + ,007 + ,017 + ,016 + ,011 - ,003 | A wrong star observed in 1835. |
| | 374 . III 378 . III 380 . III 445 . II 403 . III | Fornacis 206 Eridani H Camelop. 35 Eridani 171 Tauri | 6=13,76 *3= 4,41 | 2 = 42,07 $2 = 39,60$ $3 = 1,35$ $1 = 13,49$ $3 = 4,38$ | 40 42,07 41 39,60 43 1,35 53 13,72 55 4,40 | 2,436 2,251 5,200 3,028 3,224 | + ,006 + ,002 + ,015 + ,001 + ,022 | The place of this star as given in Vol. III. is erroneous to the amount of a years precession. |
| | 455 . II 454 . II 421 . III 432 . III 433 . III | Reticuli y Tauri 205 ——— o¹ Eridani Z ——— | 8=32,79 6=36,42 2=45,54 1= 4,47 | 3=32,82 1=36,45 1=45,15 3=51,35 3= 4,44 | 58 2,80 58 36,43 4 6 45,41 12 51,35 13 4,45 | 0,841 3,418 3,188 2,501 3,058 | + ,007 - ,005 + ,008 - ,002 | Piazzi properly places this star in the constellation Taurus. |
| | 436 . III 500 . II 503 . II 508 . II 445 . III | 220 Persei | *3= 0,43 4=51,29 4= 0,62 5= 4,29 1= - | 4 = 0.44 3 = 51.65 3 = 0.54 1 = 4.41 4 = 11.00 | 14 0,44 15 51,45 17 0,59 19 4,31 21 11,00 | 3,858 0,643 3,395 3,414 3,388 | + ,019 + ,025 + ,001 + ,013 | |
| | 447 . III 529 . II 463 . III 465 . III 467 . III | 269 — d 88 — d 335 Eridani Scep. Brand. 40 Camelop. | 4=38,88 3=58,03 | 4=24,32 1=39,08 3=29,77 1=57,56 3=39,67 | 21 24,32 26 38.92 27 29,77 28 57,92 30 39,67 | 3,412 3,280 2,393 2,877 6,502 | + ,020 + ,007 - ,001 - ,005 + ,036 | |
| - | 555 . II 499 . III 577 . II 515 . III 518 . III | 96 Tauri K 52 Camelop, 10 $\frac{d^1}{\text{Eridani}}$ 61 Camelop. | 5=21,53 3= 4,30 6=51,51 1=57,58 | 2 = 21,66 $4 = 4,75$ $2 = 52,29$ $3 = 40,41$ $3 = 57,83$ | 40 21,56 44 4,56 48 51,71 51 40,41 51 57,77 | 3,419 7,429 5,286 2,829 5,176 | + ,014 - ,018 + ,005 + ,003 + ,010 | |
| | 523 . III 530 . III 610 . II 622 . II 554 . III | e Aurigæ b — Z Doradus Z Columbæ 2 — Z | 4=30,87 7=42,53 5=49,99 1=54,00 | 3=31,61 2=31,08 4=42,68 2=49,70 3=53,87 | 54 31,61 58 30,94 5 2 42,58 8 49,91 9 53,90 | 5,504 4,439 1,021 2,400 2,151 | + ,014 + ,014 + ,006 + ,003 | |
| | 626 . II 635 . II 641 . II 577 . III 661 . II | Leporis 22 Orionis Eridani 367 Tauri 25 Aurigæ | 5 = 8,50 $6 = 2,78$ $4 = 49,63$ $12 = 3,61$ | 3 = 8,46 $6 = 23,68$ $3 = 2,62$ $1 = 49,34$ $3 = 3,67$ | 10 8,49 13 23,68 15 2,73 20 49,57 22 3,62 | 2,750 3,055 2,459 3,609 2,941 | + ,016 + ,011 + ,006 + ,011 | The place now observed agrees with Piazzi, but differs 8,21s. from A. S. C. |
| | 594 . III 679 . II 597 . III 691 . II | 27 Columbæ 41 Orionis θ 84 Camelop. 47 Orionis ω 393 Tauri | 4= 3,72 6=31,88 1=15,34 | 3=56,73 $6=13,28$ $1=4,16$ $3=31,75$ $3=15,11$ | 26 56.73 27 13.28 29 3,81 30 31,84 33 15,17 | 1,697 2,941 5,495 3,161 3,524 | + ,006 ,000 - ,014 + ,010 + ,014 | The place now observed agrees with Piazzi, but differs nearly 5s. from the A. S. C. |
| | 626 . III 743 . II 658 . III 677 . III 447 . IV | Columbæ Aurigæ n Camelop. Columbæ Geminor. seq. | $ \begin{array}{c c} 1 = 5,63 \\ 5 = 42,21 \\ \hline 1 = 45,72 \end{array} $ | $\begin{vmatrix} 3 = 5,51 \\ 2 = 42,11 \\ 3 = 29,06 \\ 4 = 45,39 \\ 1 = 7,54 \end{vmatrix}$ | 38 5,54 50 42,18 51 29,06 59 45,45 6 4 7,54 | 1,972 3,765 4,752 1,730 3,663 | + ,007 + ,006 + ,005 - ,001 - ,001 | This observation was omitted. |

^{*} See errata.

| - | Refe | rence. | Names. | | Mean A. I 1836 | , | Concluded Mean A. R. | Ann | ual | Remarks. |
|---|--|----------------------------------|---|----------|---|--|--|--|--|---|
| | No. | Vol. | ivames. | | former obs. | present obs. | Jan. 1, 1836. | Precesn. | P. M. | ILEMAKKS. |
| | | of II . IV . III . III | Orionis Monocer. 25 Monocer. 31 Geminor. 9 Lyncis | l | s. *5= 4,65 2=60,70 1=33,46 4=29,06 | s. 4= 4,15 3=18,65 3=52,04 3=33,44 2=29,52 | h. m. s. 6 8 4,43 8 18,65 9 52,04 11 33,44 12 29,21 | s. +3,303 2,767 2,817 3,586 5,243 | s. + ,010 + ,008 - ,017 + ,007 - ,001 | The results in each year agree very well inter— se:—this star must be re-examined. These observations were omitted. In 1835 a wrong star appears to have been observed;—on the present occasion the small star mention by P. was observed; preceding 25 min. 15,05s. |
| | 793 799 | . II | Canis Maj. Monocer. Geminor. 15 ——— 11 Navis | | *1=55,90 6=39,90 3=59,24 5= 0,07 4=19,94 | 2=56,17 1=39,73 6=59,20 6=0,12 2=19,95 | 14 56,08 14 39,88 17 59,21 18 0,10 18 19,94 | 2,300 3,158 3,576 3,576 2,078 | + ,014 + ,005 + ,012 + ,009 + ,002 | The result in Vol. III belongs to Piazzi, No. 81. Omitted in Vol. III. |
| | 805 739 758 760 770 | . III . III . III . III | 17 Geminor. 120 Camelop. 50 Geminor. 26 Navis 6v ¹ Canis præc. | | * | 2=25,28 3=23,56 4=32,33 3=44,05 3=12,26 | 19 25,28 21 25,04 26 32,33 26 44,05 29 12,20 | 3,588 30,934 3,474 2,047 2,624 | + ,066 + ,007 + ,002 + ,005 | This Star is now of the 9,10 mag. N. P. D. = 2° ,44' diff. = $2^{\prime\prime}$,04 of arc. |
| | 772 774 783 835 794 | . III | Lyncis 22 ——————————————————————————————————— | q | 1=20,05 | 5=20,63 3=27,78 3=52,60 6=59,29 3=51,47 | 30 20,54 30 27,78 32 52,60 35 59,10 37 51,43 | 5,326 5,114 6,291 6.522 3,254 | + ,007 + ,019 + ,012 - ,019 + ,013 | This — P. M. partly accounts for the difference (nearly 2") from the A. S. C. |
| | 795 840 807 848 855 | . III . III | 49 Navis 18 Monocer. 29 Lyncis 13 Can Maj. Geminor. | λ κ² | 1=54,82 6=18,56 4=10,95 19=43,04 6=44,21 | 2=55,08 1=18,28 3=11,24 1=43,04 3=44,17 | 37 54,99 39 18,52 43 11,07 43 43,04 46 44,20 | 1,999 3,128 5,148 2,238 3,492 | + ,039 + ,005 + ,014 + ,004 + ,010 | |
| | 814 827 832 888 901 | . II | Lyncis 131 Camelop. Monocer. 51 Geminor. Piscis. Vol. | γ | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 47 6,43 53 55,15 54 18,50 7 3 57,02 10 6,74 | 5,143 11,802 2,977 3,447 -0,475 | + ,009 - ,036 + ,013 + ,007 | N. P. D. == $8^{\circ},27'$ |
| | 891 91 0 925 | . III | Lyncis 144 Geminor. Navis 153 Camelop. | | 1=48,03 1=9,63 5=47,51 | 2=48,31 3=20,90 3= 9,49 3=49,02 3=33,56 | 11 48,22 14 20,90 22 9,52 28 48,08 32 33,56 | +5,013 3,740 2,380 10,586 10,237 | + ,011 | |
| | 954 966 974 980 982 | . III | 11 Argus. Camelop. | x | 1=51,54 6=48,72 4=43,11 8=36,26 | 3=48,67 3=51,53 3=48,74 3=43,38 2=36,26 | 40 48,67 44 51,53 49 48,73 51 43,23 52 36,26 | 2,815 2,781 2,578 4,972 1,530 | + ,011 + ,003 + ,005 | |
| j | 988 993 997 1024 1 0 29 | | 55 Camelop. Navis Cancri Argus | ϕ^2 | 6=23,61 1=11,31 | 3=23,77 2=11,51 6=19,62 6=51,22 2=59,25 | 56 23,67 57 11,41 8 2 19,62 16 51,22 17 59,24 | 6,107 2,659 3,278 3,643 2,589 | | |
| | 1038 1041 1049 1057 1055 | . II . III | | | $ \begin{array}{c cccc} 6 = 44,34 \\ 5 = 8,94 \\ 5 = 25,79 \\ 4 = 56,91 \\ 9 = 2,12 \end{array} $ | 4=43,86 2= 9,07 2=25,83 1=56,76 1= 1,95 | 23 44,15 24 8,98 30 25,80 30 56,88 31 2,10 | | + ,014 + ,022 + ,016 + ,020 + ,003 | |

| Reference, | Names. | Mean A. R. Jan 1836.—from | . L /1 11 18 2 1 1 1 1 1 1 1 1 1 1 1 1 | Ann | nual | Remarks. |
|--|--|---|---|---|--|---|
| No. Vol. | | former obs. preser | Jan 1 1836 | Precesn. | P. M. | |
| 1067 of III 1068 . III 1105 . II 1109 . III 1112 . II | Navis d 133 Cancri Argus. c 209 Cancri Pixid Naut. | 3=38,48 2= 20=30,25 4= 3=51,10 3= | s. 8 8 38 32,78 8 38 38,98 39 38,68 29,69 58 30,16 51,39 9 0 51,24 51,38 0 51,05 | 2,068 3,272 | s. + ,020 + ,004 + ,012 | The Paramatta obs. differ 3s. from this result. The Paramatta observations with the Transit, defer 1,32s from this result. |
| 1118 . III 1121 . III 1127 . II 1132 . II 1148 . II | Hydræ Navis ½1 24 Hydræ Leonis Ursæ Maj. d | 8=25,11 2= 5=38,94 1= 5=37,50 4= | 51,02 6 51,03 25,20 8 25,13 39,51 8 39,03 37,62 11 37,55 50,88 19 50,63 | 2,384 2,940 3,523 | + ,008 - ,008 - ,009 - ,021 | N. P. D. 19°,26′. |
| 1155 . II 1162 . III 1185 . III 1191 . II 1226 . II | Leonis h 88 Ursæ Maj. 66 Leonis 9 Sextantis Autl. Pneum. | $ \begin{array}{c cccc} 4 = 40,50 & 3 = \\ & & 3 = \\ & 6 = 32,30 & 2 = \\ \end{array} $ | 9,87 41,07 30,97 32,57 37,33 23 9,82 27 40,74 38 30,97 45 32,37 10 10 37,20 | 5,761 3,370 3,143 | + ,022 - ,016 + ,022 + ,011 + ,013 | |
| 1233 . II 1256 . III 1260 . III 1246 . II 1268 . III | Leonis Leonis Sextantis 28 — | $\begin{vmatrix} & 3 = 3 = 3 = 5 = 3 = 5 = 3 = 5 = 3 = 5 = 3 = 5 = 3 = 5 = 3 = 5 = 3 = 5 = 3 = 5 = 3 = 5 = 3 = 5 = 5$ | 25,38 | 3,166 3,067 3,050 | $\begin{vmatrix} + & ,011 \\ + & ,012 \\ - & ,004 \end{vmatrix}$ | |
| 1270 . II 1275 . II 1276 . II 734 . IV 1311 . III | 34 Sextantis 36 Argus. Sextantis Hydræ | $\begin{vmatrix} 4 = 42,77 \\ 18 = 7,49 \\ 5 = 4,67 \end{vmatrix} 3 = 2 = 2$ | 9,39 34 9,43 42,54 36 42,67 7,56 37 7,50 4,97 42 4,76 28,71 46 28,71 | 3,096 2,117 3,006 | + ,015 | These observations were omitted in the Catalog |
| 1294 . II 1328 . III 1329 . III 748 . IV 1341 . III | Argus. u Leonis p 216 Ursæ Maj. Leonis Ursæ Maj. | $ \begin{vmatrix} 3 = 13,16 & 2 = \\ 3 = 22,96 & 1 = \\ 1 = 4,71 & 4 = \end{vmatrix} $ | 51,48 46 51,58 13,20 55 13,18 22,98 55 22,96 4,70 58 4,70 10,55 11 0 10,46 | 3,073 3,369 3,118 | + ,009 + ,014 + ,008 + ,006 | These observations were omitted in the Catalog |
| 1344 . III 1350 . III 1353 . III 1368 . III 1370 . III | 223 Ursæ Maj. 322 Leonis Hydræ X ¹ 370 Leonis | $ \begin{array}{c cccc} 1 = 4,84 & 3 = \\ 2 = 22,26 & 1 = \\ 1 = 17,51 & 2 = \end{array} $ | 57,64 4,90 22,20 17,27 43,67 1 57,43 5 4,89 7 22,24 15 17,35 16 43,76 | 3,500 3,141 2,886 | + ,010 + ,010 + ,029 + ,011 + ,006 | |
| 1376 . III 1353 . II 1354 . II 1355 . II 1411 . III | Hyd. & Crat. 17 Crateris Hydræ o | $ \begin{array}{c cccc} 7 = 36,20 & 2 = \\ 6 = 9,45 & 2 = \\ 5 = 27,97 & 3 = \end{array} $ | 14,88 36,14 9,25 27,76 4,86 19 14,99 23 36,18 24 9,40 24 27,89 32 4,78 | 3,020 3,047 2,955 3,043 2,960 | + ,016 + ,003 - ,014 + ,016 - ,006 | |
| 1416 . III 1427 . III 1388 . II 1454 . III 1400 . II | Leonis Virginis Corvi | $ \begin{vmatrix} 1 = 31,72 \\ 6 = 38,31 \\ 1 = 36,91 \end{vmatrix} 3 = $ | 33,75 33 33,75 32,14 40 32,03 38,25 52 38,29 36,61 11 54 36,69 38,12 12 2 38,25 | 3,099 3,067 3,056 | 004, — 007, + | |
| 1406 . II 1493 . III 1496 . III 1412 . II 1500 . III | Virginis g 18 Canum Ven. | $\begin{vmatrix} 3=45,06 \\ \end{vmatrix} \begin{vmatrix} 2=-16,05 \\ 4=-16,05 \end{vmatrix}$ | 28,90 6 29,37 45,60 9 45,28 14,56 10 14,56 16,19 10 16,08 16,26 11 16,33 | 3,125 3,071 3,028 3,068 3,031 | + ,006 + ,006 + ,011 ,000 | Differs 2s. + from A, S. (!. |

| Refe | erence. | | Mean A. F 1836.— | • | Concluded | Ann | ual | Dragge |
|--------------------------------------|------------------------|---|--|---|---|---|--|---|
| No. | Vol. | Names. | | present obs. | Mean A. R. Jan. 1, 1836 | Precesn. | P. M. | Remarks. |
| 1501 1503 1516 1445 1540 | . III | 19 Draconis. 26 Corvi. Comæ Ber. 20 Virginis. Corvi. | s. 1=42,05 5=44,86 2=29,34 | s. 3=25,96 3=42,06 3=49,16 4=44,87 3=29,27 | h. m. s. 12 11 25,96 11 42,06 15 49,16 24 44,86 25 29,30 | s +2,796 3,095 3,021 3,040 3,130 | s. + ,069 - ,007 + ,011 + ,006 + ,028 | |
| 1544 1460 1562 1577 828 | . III | Comæ Ber. 26 Virginis. 311 Virginis. Comæ Ber. pre. | 1 = 35,20 $6 = 47,53$ $1 = 10,19$ $3 = 5,97$ $2 = 47,65$ | 3=35,78 4=47,35 3=10,23 1= 6,27 3=47,82 | 26 35,64 30 47,46 38 10,22 43 6,04 43 47,71 | 2,995 3,090 3,028 2,977 2,975 | + ,007 + ,011 + ,013 + ,011 + ,038 | These were omitted in the Catalogue. |
| 1578 1598 1604 1503 1615 | . III | $\begin{array}{c} \overline{\text{Centauri.}} \\ \overline{\text{Canum Ven.}} \\ 456 \text{ Virginis.} \end{array}$ | $ \begin{array}{c c} 3 = 47,69 \\ 3 = 4,52 \\ 1 = 45,19 \\ \hline 1 = 16,08 \end{array} $ | 1 = 48,12 $3 = 4,24$ $4 = 44,90$ $3 = 3,98$ $3 = 16,14$ | 43 47,79 52 4,38 54 44,96 58 3,98 13 2 16,12 | 2,975 3,262 3,277 2,820 3,126 | + ,017 - ,004 + ,010 + ,011 - ,003 | |
| 1619 1639 1649 1659 1660 | . III . III | Centauri. m 205 Comæ Ber. Ursæ Maj. Virginis. | 1=56,37 3=15,86 3=18,96 3=25,40 *3=22,83 | 3=56,03 1=15,77 2=18,83 1=25,28 2=22,90 | 2 56,12 12 15,84 18 18,93 22 25,37 23 22,86 | 3,341 2,928 2,410 2,227 3,080 | 018 + ,015 + ,013 + ,002 - ,043 | |
| 1668 1694 1565 1568 1570 | . III . II | 7 Bootis. Virginis. 86 — o 3 Bootis. Centauri. | 1=11,23 6=12,68 | 3 = 57,60 $3 = 11,17$ $1 = 12,94$ $3 = 6,29$ $2 = 42,19$ | 26 57,60 37 11,19 37 12,72 39 6,29 39 42,19 | 3,169 3,180 2, 789 | + ,009 - ,004 + ,010 + ,005 + ,005 | |
| 1728 1594 1608 1753 1759 | . III | Bootis. Virginis. 96 — y 642 — y | $\begin{array}{c c} 3 = 45,13 \\ 5 = 26,72 \\ 7 = 16,99 \\ 2 = 37,15 \\ 3 = 17,73 \end{array}$ | 2=45,05 1=26,48 2=16,86 3=37,30 3=17,39 | 1 37,24 | 3,148 3,180 2,936 | + ,004 + ,012 + ,010 + ,010 + ,013 | |
| 936 1768 1627 1630 1633 | . III . II | Bootis. 18 ——— 7 Hydræ. Solitarii. | 3=40,28 3=36,19 6=40,13 | 3=40,33 1=36,32 4=20,16 1=39,97 4=28,47 | 4 40,30 7 36,22 11 20,16 13 40,11 15 28,47 | 2,146 2,891 3,442 | + ,007 + ,028 + ,019 - ,002 + ,009 | These observations were omitted in the Catalogue. |
| 1795 1801 954 1822 963 | . III . IV . III | Bootis. Hydræ. Virginis. Libræ. | $ \begin{array}{c c} & \\ 4 = 2,10 \\ 3 = 36,06 \\ 2 = 28,51 \end{array} $ | 2 = 34,29 $2 = 0,18$ $1 = 1,84$ $2 = 35,80$ $2 = 28,46$ | 18 34,29 21 0,18 25 2,05 28 35,96 33 28,48 | 3,153 | + ,009 - ,018 + ,009 - ,001 - ,004 | This observation was omitted in the Catalogue. These observations were omitted in the Catalogue. |
| 1671 1673 1676 1854 1690 | · III | 11 Hydræ. Libæ. 13 Hydræ. Libræ. | 2=25,49 5=54,30 | 4=51,50 4=55.37 4=23,19 1=25,61 5=54,55 | 37 51,50 37 55,37 38 23,19 45 25,53 47 54,42 | 3,387 3,481 | + ,014 + ,011 + ,008 + ,007 + ,079 | Differs 3s. from A. S. C. See Piazzi's Note,— |
| 1696 1698 1702 1707 1709 | . II . II | 1 Serpentis. Bootis. Libræ. 41 Bootis. ω Libræ. | 6=25,37 | $\begin{array}{c c} 4 = 9,15 \\ 3 = 32,96 \\ 2 = 25,37 \\ 4 = 55,57 \\ 3 = 42,12 \end{array}$ | 49 32,96 53 25,37 54 55,57 | 2,792 3,179 2,642 | + ,011 + ,006 + ,005 + ,016 + ,017 | |

| Reference. | Names. | | | R. Jan. 1, from | Concluded Mean A. R. | Anr | ıual | Remarks. |
|---|---|---|--|---|---|--|--|--|
| No. Vol. | | | former obs. | 1 | Jan. 1, 1836. | Precesn. | P. M. | |
| 1879 of III 1885 . III 1718 . II 1719 . II 1720 . II | 33 Ursæ Min. Lupi 46 Bootis | κ^1 | 2=4,36 ==================================== | s. 2=12,87 3= 5,13 5=34,63 3=19,10 3=26,84 | h. m s. 14 56 12,87 58 4,82 15 0 34,63 1 19,10 1 26,84 | s. -0,537 -0,567 +4,121 2,585 2,610 | s. + ,019 + ,012 + ,009 + ,004 | N. P. D. 14°,28′. π² follows at 0m. 36,16s. |
| 1898 . III 1727 . II 1736 . II 1737 . II 1743 . II | 97 Libræ 3 Serpentis 5 ——— Bootis 6 Serpentis | | 3=12,84 | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 5 12,82 7 2,57 10 56,95 11 3,45 12 41,54 | 3,378 2,973 3,026 2,685 3,045 | - ,001 + ,004 + ,032 + ,003 + ,024 | |
| 1906 . III 1744 . II 1001 . IV 1752 . II 1757 . II | Cor. Bor. 30 Libræ Cor. Bor. Libræ Triang. Aust. | ο 0°2 | 3=21,68 2=32,82 = | 1=21,65 2=53,90 1=32,58 3=55,67 4=49,09 | 13 21,67 13 53,90 13 32,74 20 55,67 21 49,09 | 2,487 3,327 2,484 3,375 5,349 | + ,008 + ,001 | This observation was omitted in the Catalogue. |
| 1763 . II 1768 . II 1769 . II 1771 . II 1772 . II | 37 Libræ 39 ———————————————————————————————————— | f^1 A^1 | 7=13,30 | I=13,48 3= 5,22 2=39,18 2= 6,90 2= 9.37 | 25 13,32 27 5,22 27 39,18 28 6,90 28 9,37 | 3,242 3,615 3,574 2,721 3,068 | + ,023 + ,006 + ,010 + ,003 + ,006 | |
| 1773 . II 1776 . II 1778 . II 1779 . II 1790 . II | Libræ 18 Serpentis 41 Libræ Lupi 8 Cor. Bor. | $	au^2$ ϕ g γ | parameters of | 2=18,69 2=56,04 3=29,14 1=54,55 4=51,45 | 28 18,69 28 56,04 29 29,14 29 54,55 35 51,45 | 3,427 | + ,009 + ,021 + ,071 | |
| 1792 . II 1804 . II 1805 . II 1808 . II 1965 . III | 15 Ursæ Min. 36 Serpentis 10 Cor. Bor. Scorpii Lupi | $egin{array}{c} 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	heta \ 	het$ | 3=25,60 | $\begin{vmatrix} 4 = 26,03 \\ 4 = 43,51 \\ 4 = 43,11 \\ 4 = 8,10 \\ 2 = 25,51 \end{vmatrix}$ | 36 26,03 42 43,51 42 43,11 44 8,10 46 25,56 | $\begin{vmatrix} +3,118 \\ 2,516 \\ 3.561 \end{vmatrix}$ | + ,002 + ,033 | |
| 1032 . JV 1966 . III 1817 . II 1821 . II 1824 . II | 100 Serpentis Serpentis Lupi | ξ ² | 3=45,22 | 2=26,17 4=45,14 4=21,13 4=16,60 4= 4,50 | 46 26,17 46 45,17 47 21,13 49 16,60 50 4,50 | 2,643 3,943 | $\begin{vmatrix} + & ,012 \\ - & ,002 \\ + & ,001 \end{vmatrix}$ | These were omitted in the Catalogue. On the 11th June 1837 a star was observed at the Transit, following at 0,42s |
| 1835 . II1987 . III1988 . III1839 . II1838 . II | 6 Herculis | θ ν ω² | 3=30,36 | 4=50 77 4=30,52 2=49,15 4=41,55 3=48,01 | 1 | 3,911 3,911 1,856 | + ,012 + ,008 + ,019 | |
| 1992 . III 1847 . II 1848 . II 1850 . II 1853 . II | 7 Herculis Scorpii | κ^1 c^2 | | $ \begin{array}{c c} 1 = 2,75 \\ 2 = 40,51 \\ 2 = 51,89 \\ 2 = 13,01 \\ 3 = 14,68 \end{array} $ | 16 0 40,51 0 51,89 2 13,01 | 2,703 3,709 3,673 | $\begin{vmatrix} + & ,002 \\ - & ,001 \\ + & ,000 \end{vmatrix}$ | |
| 1855 . II 1856 . II 2014 . III 1866 . II 2018 . III | 10 Herculis 37 ———————————————————————————————————— | T h | 3=12,79 | 4=11,43 | 4 39,14 8 12,88 | 2,549 2,656 3,764 | + ,004 + ,010 + ,016 | |

| | Reference. | Names. | | | R. Jan. 1, from | Concluded Mean A. R. | Am | nual | Remarks. |
|------|--|--|---|--|--|--|--|---|--|
| | No. Vol. | | | former obs. | present obs. | Tan 1 1836 | Precesn. | P. M. | |
| | 1058 of IV 1059 . IV 1877 . II 1881 . II 1072 . IV | Scorpii 5 Ophiuchi 21 Cor. Bor. Scorpii | $præc. \\ seq. \\ g \\ v^2$ | s. 1=55,11 1=55,69 3=45,65 4= 2,53 | s. 1=55,16 1=55,49 2=46,00 4=18,75 3= 2,34 | h. m. s. 16 10 55,14 10 55,59 15 45,79 16 18,75 20 2,45 | s. +3,494 3,494 3,578 2,255 3,627 | s. + ,001 - ,006 + ,004 + ,017 + ,012 | Omitted in the Catalogue. Do. Do. |
| | 1888 . II 2076 . III 2078 . III 2080 . III 1086 . IV | 22 Scorpii Ursæ Min. Draconis Scorpii | $oldsymbol{i}$ | | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 20 15,41 35 1,41 36 1,18 37 22,05 39 25,35 | 3,626 $-3,528$ $+0,771$ $1,179$ $4,183$ | + ,010 - ,021 + ,007 + ,027 - ,010 | This observation was omitted in the Catalogue. |
| 1 | 1921 . II 2094 . III 2097 . III 2101 . III 1930 . II | Scorpii 151 ——— 150 Scorpii Draconis 51 Herculis | $egin{aligned} \mu^2 \ var. \ & \mathbf{X}^2 \end{aligned}$ | 3=32,42 | 3 = 14,78 $2 = 32,68$ $2 = 42,10$ $4 = 30,11$ $2 = 57,48$ | 41 14,78 42 32,52 42 42,10 43 30,11 44 57,48 | 4,040 4,185 4,187 1,217 2,480 | + ,005 - ,001 + ,026 + ,035 + ,005 | |
| | 1929 . II 1933 . II 1938 . II 1939 . II 2113 . III | Aræ 54 Herculis Ophiuchi 90 —— | ξ | | 2= 5,16 2=32,73 2= 9,84 4=55,99 3=59,30 | 45 5,16 46 32,73 48 9,84 49 55,99 49 59,30 | 4,922 4,743 2,638 3,657 3,429 | - ,003 + ,013 + ,012 | |
| | 1942 . II 2119 . III 2123 . III 1950 . II 2125 . III | Ophiuchi Herculis 103 Ophiuchi 19 Draconis 122 ——— | h | 5=12,08 ==================================== | 1=12,07 6=32,23 4=38,89 2= 8,57 2=37,39 | 50 12,08 52 32,23 54 38,89 55 8,27 55 37,21 | 3,481 2,818 3,677 0,266 0,279 | + ,002 + ,048 | N. P. D. = 24°,36′. N. P. D. = 24°,43′. |
| | 1953 . II 1956 . II 1958 . II 2139 . III 1965 . II | 32 Ophiuchi ———————————————————————————————————— | | 4=43,99 | $ \begin{array}{c} 4 = 37,36 \\ 4 = 5,62 \\ 2 = 44,12 \\ 3 = 28,93 \\ 3 = 2,39 \end{array} $ | 55 37,36 57 5,62 58 44,03 17 0 28,93 4 2,39 | 2,740 3,083 3,471 1,581 3,722 | + ,011 + ,007 + ,020 | |
| | 2150 . III 2154 . III 2155 . III 1973 . II 1974 . II | Draconis 129 ———————————————————————————————————— | o | 3=20,03 | 3 = 38.77 $2 = 13.31$ $2 = 20.35$ $2 = 1.15$ $2 = 6.76$ | 4 38,77 6 13,31 6 20,16 8 1,15 8 6,76 | 1,146 0,688 2,725 3,650 3,644 | $\begin{vmatrix} + & 0.012 \\ + & 0.007 \\ + & 0.001 \end{vmatrix}$ | |
| | 1977 . II 1979 . II 1983 . II 1984 . II 2174 . III | 22 Draconis Ophiuchi Aræ Ophiuchi | γ β | 3=53,77 | 2=19,52 2=21 09 2=36,94 2=41,29 2=53,70 | 8 19,52 10 21,09 11 36,94 11 41,29 16 53,75 | 0,153 3,481 5,019 4,958 3,580 | + ,009 | Differs 1",60 from A. S. C. |
| | 2004 . II 2014 . II 2195 . III 2022 . II 2023 . II | Ophiuchi 54 ——— Herculis 24 Draconis 25 ——— | v^1 | 2=28,06 | 3 = 27,96 $2 = 49,30$ $3 = 52,21$ $2 = 57,27$ $2 = 2,42$ | 20 28,00 26 49,30 28 52,21 28 57,27 29 2,42 | 3,057 2,756 1,521 1,156 1,157 | + ,003 + ,022 + ,009 + ,029 + ,028 | |
| | 2030 . II 2213 . III 1185 . IV 2217 . III 2220 . III | 27 Draconis 323 Herculis 83 ———————————————————————————————————— | f | $ \begin{array}{c c} 1 = 37,86 \\ 2 = 45,14 \\ 2 = 54,13 \end{array} $ | 2=38,00 3=59,30 2=45,09 1=13,76 3=54,57 | 32 37,95 34 59,30 35 45,11 37 13,76 37 54,40 | -0,290 +2,458 +2,458 -1,668 +2,929 | + ,003 + ,008 + ,001 - ,022 + ,003 | |
| Jan. | utvapa,garmetropada errologaginessa ungulus | | | | | | |) | And the second s |

| Reference. | A T | Mean A. R. Jan. 1, 1836.—from | Concluded | Annual | |
|--|---|---|--|---|---|
| No. Vol. | Names. | former obs. present obs | Mean A. R. Jan. 1, 1836. | Precesn. P. M. | REMARKS. |
| 2041 of II 2221 . III 2222 . III 1194 . IV 2047 . II | 28 Draconis ω Ophiuchi —— Sagittarii | s. 3=54,65 2=55,19 *4=55,07 4=55,23 2=0,46 1=0,18 1=39,86 | 38 39,44 39 0,37 | $ \begin{array}{ c c c c } \hline s. & s. \\ -0,367 & +0,005 \\ +2,934 & +0,006 \\ 2,932 & +0,015 \\ 2,934 & +0,009 \\ 3,852 & +0,014 \\ \hline \end{array} $ | This observation was omitted in the Catalogue. |
| 2232 . III 2233 . III 2234 . III 2236 . III 2246 . III | Telescopii Ophiuchi Telescopii Herculis | $ \begin{vmatrix}$ | 42 7,13 42 27,08 42 59,02 | $ \begin{vmatrix} 3,969 \\ 3,539 \\ 3,996 \\ 3,992 \\ 1,563 \end{vmatrix} + ,018 \\ + ,004 \\ + ,002 \\ + ,020 $ | |
| 2251 . III 2062 . II 2063 . II 2064 . II 2065 . II | Herculis 6 Sagittarii 66 Ophiuchi 94 Herculis n | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 51 51,71 51 58,43 52 8,54 | $ \begin{vmatrix} 1,948 \\ 3,480 \\ 3,628 \\ 2,970 \\ 2,291 \end{vmatrix} + ,010 \\ + ,001 \\ + ,018 $ | |
| 2261 . III 2067 . II 2069 . II 2070 . II 2073 . II | 19 Sagittarii 7 — α Sagittarii Tauri Pon Aræ θ | $\begin{array}{c cccc} - & & 1 = 35,27 \\ 4 = 48,53 & & 1 = 48,13 \\ - & & 1 = 50,52 \\ - & & 1 = 53,21 \\ - & & 1 = 52,35 \end{array}$ | 52 48,45 52 50,52 52 53,21 | $ \begin{vmatrix} 3,632 \\ 3,670 \\ 3,573 \\ 2,921 \\ 4,665 \end{vmatrix} $ | Differs 1,5s. from A. S. C. |
| 2264 . III 2266 . III 2268 . III 2084 . II 2083 . II | Sagittarii Telescopii B Draconis Sagittarii | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 54 58,64 55 54,77 56 47,15 | $ \begin{vmatrix} 3,630 \\ 4,333 \\ -2,743 \\ -2,710 \\ +3,593 \end{vmatrix} + ,002 \\ + ,017 \\ - ,018 \\ + ,012 $ | |
| 2281 . III 1246 . IV 2298 . III 2109 . II 2110 . II | Sagittarii Clyp. Sob. 58 Serpentis η 20 Sagittarii | $ \begin{vmatrix}$ | 7 29,18 12 20,91 12 49,70 | $ \begin{vmatrix} 3,721 & - & ,006 \\ 4,085 & - & ,003 \\ 3,460 & + & ,008 \\ 3,092 & - & ,008 \\ 3,983 & - & ,001 \end{vmatrix} $ | These observations were omitted in the Catalogue. |
| 2119 . II 2306 . III 2311 . III 2125 . II 2126 . II | Pavonis 167 Draconis Sagittarii Clyp. Sob. Sagittarii v ¹ | $ \begin{vmatrix}$ | 16 13,86 19 15,87 19 51,02 | $ \begin{vmatrix} 5,615 \\ -0,350 \\ +3,938 \\ +3,938 \\ +,009 \\ 3,416 \\ 3,935 \\ +,001 \end{vmatrix} $ | |
| 2127 . II 2135 . II 2136 . II 1267 . IV 2137 . II | Clyp. Sob. Sagittarii Clyp. Sob. s1 | $\begin{vmatrix} \\ \\ 2=19,86 \end{vmatrix} \begin{vmatrix} 3=25,89 \\ 1=12,05 \\ 5=13,04 \\ 1=20,00 \\ 3=21,57 \end{vmatrix}$ | 23 12,05 23 13,04 | $ \begin{vmatrix} 3,417 \\ 3,936 \\ 3,666 \\ 4,009 \\ 3,933 \\ 3,424 \\ +,004 \end{vmatrix} $ | This observation was omitted in the Catalogue. |
| 2140 . II 2138 . II 2141 . II 2142 . II 2324 . III | Sagittarii Pavonis 24 Sagittarii Clyp. Sob. Sagittarii | $ \begin{vmatrix} & 2 = 33,79 \\ 2 = 49,46 \\ 1 = 52,54 \\ & 3 = 16,96 \\ 1 = 41,61 \end{vmatrix} $ | 23 33,79 23 49,46 23 52,50 24 16 96 24 41,48 | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | Differs — 2,65s. from A. S. C. + 2,19s. — Paramatta Obs. |
| 2328 . III 2151 . II 2152 . II 2153 , II 2154 . II | Lyræ Clyp. Sob. Sagittarii Herculis Sagittarii | $ \begin{vmatrix} 1 = 21,66 \\ $ | 27 22,15 28 20,28 28 32,62 28 40,20 29 6,74 | $ \begin{vmatrix} 2,005 & + ,009 \\ 3,483 & + ,006 \\ 3,649 & + ,015 \\ 2,492 & - ,008 \\ 3,582 & + ,002 \end{vmatrix} $ | The observation in 1835 is incomplete, and mark-ed "faint."—I have given it half the credit of the other. |

^{*} See errata.

| Refere | ence. | Names. | | | R. Jan. 1, —from | Concluded Mean A. R. | An | nual | REMARKS. |
|--|----------------------|---|--|--|---|--|--|--|---|
| No. | Vol. | | | former obs. | present obs. | Jan. 1, 1836. | Precesn. | P. M. | |
| 2332 o 2340 . 1281 . 2347 . 2183 . | III IV III | 37 Lyræ 14 Cor. Aust. Lyræ Sagittarii | | s. *2=51,63 3=33,46 1=35,51 2= 5,08 | s. 2=52,52 1=33,38 1=35,82 3=35,81 2= 5,07 | h. m. s. 18 29 52,07 32 33,44 32 35,66 36 35,81 46 5,04 | s. +2,004 4,172 4,172 2,095 3,634 | s. + ,002 - ,021 - ,019 + ,005 + ,013 | This observation was omitted in the Catalogue. |
| 2366 . 2193 . 2389 . 1350 . 1354 . | IV III II | Sagittarii 64 Serpentis 114Lyr æ Aquilæ | | $ \begin{array}{c} 1 = 2.12 \\ 3 = 48.19 \\ 3 = 58.76 \\ 2 = 16.54 \end{array} $ | 1 = 38,75 $2 = 1.83$ $3 = 47.85$ $2 = 58,71$ $1 = 16,66$ | 46 38,75 49 1,92 56 48,02 19 6 58,74 8 16,58 | 3,632 3,015 1,693 2,864 2,864 | + ,015 + ,011 + ,014 + ,026 + ,009 | These were omitted in the Catalogue. Do. Do. Do. |
| 2236 . 2244 . 2246 . 2247 . 2249 . | II II II II | Sagittarii 28 Aquilæ 27 ——— | $egin{array}{c c} eta^2 & & & \ A & & \ d & & \end{array}$ | Section of the sectio | l=38 92 l=21,36 l= 0,08 l= 0,23 l= 8,08 | 9 38,92 11 21,36 12 0,08 12 0,22 12 8,01 | 3,430 4,346 3,519 2,796 3,095 | - ,004 - ,012 - ,003 - ,001 + ,009 | |
| 2264 . 2269 . 2271 . 2272 . 1387 . | II II | Sagittarii 4 Vulpeculæ 3 Cygni 60 Draconis Anseris | r | 2=18,18 | 2= 6,03 2=17,05 2=38,66 2=39,41 1=18,47 | 17 6,04 18 17,05 18 38,66 18 39,41 19 18,28 | $ \begin{array}{r} 3,403 \\ 2,623 \\ 2,491 \\ -1,057 \\ +2,621 \end{array} $ | + ,008 + ,014 - ,009 + ,036 + ,005 | |
| 2427 . 2276 . 2446 . 2447 . 1430 . | II III III | 19 Cygni Sagittarii 39 Cygni Sagittarii Sagittæ | | 3 = 5.81 $5 = 9.76$ $3 = 45.26$ $3 = 5.55$ | 3= 5,82 2= 9,72 2=45,29 2=50,20 1= 5,35 | 20 5,81 21 9,75 27 45,27 27 50,20 34 5,50 | 1,571 3,566 1,272 3,298 2,674 | + ,012 + ,005 + ,007 + ,007 + ,009 | |
| 1436 . 1437 . 2464 . 2465 . 2468 . | IV III III | Sagittæ 73 Cygni Aquilæ Cygni | \nu | 2=18,86 4=28,18 2=27,59 2=41,29 3=38,64 | 1=18,75 2=28,23 2=27,27 1=41,43 2=38,60 | 35 18,83 35 28,20 37 27,43 37 41,33 39 38,63 | 2,670 2,680 1,610 2,914 2,197 | + ,016 + ,004 - ,001 + ,017 + ,005 | These observations were omitted in the Catalogue. |
| 2478 . 2481 . 2482 . 1475 . 2505 . | III IV | Aquilæ 25 Sagittæ 187 Aquilæ 18 Cephei | | 3=23,05 3= 3,02 3=44,52 3= 5,91 | 1 = 22,76 $1 = 2,95$ $2 = 44,85$ $2 = 5,80$ $2 = 38,96$ | 44 22,98 45 3,00 45 44,65 54 5,87 55 38,96 | 2,830 2,673 3,250 2,835 1,242 | - ,014 + ,002 - ,017 + ,004 + ,022 | These observations were omitted in the Catalogue. |
| 2363 . 2365 . 2510 . 2370 . 2524 . | II | 63 Aquilæ 15 Sagittæ Draconis 17 Vulpeculæ Antinous | τ z e ¹ i | 5=44,34 5=50,36 2= | 3 = 7,66 $2 = 44,13$ $2 = 43,32$ $1 = 50,56$ $1 = 52,27$ | 56 7,66 56 44,28 59 43,32 59 50,39 20 2 52,27 | 2,929 2,686 0,657 2,573 3,080 | + ,009 + ,002 + ,011 - ,008 + ,015 | The result in Vol. II. belongs to Piazzi No. 12. |

^{*} It has long been a subject of great perplexity to me—that the discordances to be met with among observations, should occasionally so far exceed the probable, and even what one could suppose the possible limits of error—this complaint however, is not altogether new;—for, so far back as 1825, Mr. Pond remarked that the results of observations of the Star Regulus derived from the two Mural Circles at Greenwich, differed, to an amount exceeding that which could reasonably be attributed either to the observers, or to the Instruments; be this as it may—the discordance which here occurs is so singularly large, that it merits particular investigation;—according I have examined and re-examined again and again every figure of the computation, in the hope of finding an error, or some circumstance, whereby the credit of the observer and instrument might be vindicated; the only circumstances which affect the two observations in the one case from those in the other, are—different observers—and, that in the former observations a Lyræ was observed in conjunction with this star (it being in the field with it):—this latter circumstance may appear trifling; but I have noticed, that any disturbance of the observer's attention, such as being hurried to observe a second star, invariably causes him to note the time too soon.

| | | Martine and the second | mpergature of the section of the sec | | | | | |
|--------------------------------------|----------------------------------|---|--|--|---|---|--|---|
| Refer | rence. | Names. | Mean A. 1836 | R. Jan. 1, from | Concluded Mean A. R. | Ann | | REMARKS. |
| No. | Vol. | | former obs. | present obs. | Jan. 1, 1836. | Precesn. | P. M. | |
| 2379 c 2534 1530 2390 | | 19 Vulpeculæ Cygni b³ 18 Sagittæ | s 3=57,28 1=23,68 1=31,77 5= 7,56 | s. $2 = 56,87$ $1 = 23,68$ $3 = 31,69$ $2 = 7,49$ | 3 7,54 | $\begin{array}{c c} \text{s.} \\ +2,503 \\ 2,236 \\ 2,239 \\ 2,632 \end{array}$ | s. + ,027 + ,015 + ,003 + ,013 | These have been omitted in the Catalogue. These were omitted in the Catalogue. |
| 1540 | . IV | Antinoi | 3=23,88 | 2=23,97 | 12 23,91 | 3,202 | + ,011 | |
| 1542 2546 2567 2575 | . IV . III . III | Capricorni Cephei Cygni Ursæ Min. | 2= 5,80 | $ \begin{array}{c cccc} 1 &= 6,02 \\ 2 &= 31,76 \\ 5 &= 50,70 \\ 1 &= 54,00 \end{array} $ | 13 5,87 13 31,76 23 50,70 24 54,00 | $\begin{vmatrix} 3,395 \\ -1,905 \\ +1,836 \\49,116 \end{vmatrix}$ | + ,097 + ,007 | N. P. D. 12°,40′ \therefore P. M. = 0″,30 of arc. N. P. D. 1°,11′ \therefore P. M. = 0″,03 of arc. |
| 2420 | | 46 Cygni ω ³ | 1=15,52 | 2=15,26 | 26 15,35 | +1,848 | + ,012 | |
| 1598 2576 2431 2434 2433 | . II | Aquarii 53 Capricorni 27 Vulpeculæ p 8 Delphini θ 1 Aquarii | 2=21,34 3=31,30 | $ \begin{vmatrix} 1 = 21,47 \\ 1 = 31,20 \\ 2 = 5,11 \\ 1 = 59,55 \\ 2 = 0,41 \end{vmatrix} $ | 26 21,38 28 31,28 30 5,11 30 59,63 31 0,41 | 3,248 3,407 2,554 2,829 3,070 | + ,011 | This observation was omitted in the Catalogue. |
| 2592 | . III | Delphini | 1=26,69 | 2=26,44 | 34 26,52 | 2,750 | + ,016 | Not now visible! |
| 1642 2603 1652 2460 | | Aquarii 61 Cephei Vulpeculæ Capricorni | 2=43,78 3= | 1=37,71 1=43,91 | 36 — 38 37,71 40 43,82 41 — | -3,109 +2,579 3,595 | | This observation was omitted in the Catalogue. The A. R. observed in 1833 pertains to anothe star—the place in the A. S. C. must be wrong or the star has disappeared. |
| 2478 2622 2488 2629 2638 | . III . III . III . III | 32 Vulpeculæ q 33 — x Microscopii | 6=34,44 | 2=34,40 1= 1,87 4=56,86 1=43,60 1= 8,37 | 46 34,43 48 1,87 50 56,77 50 43,60 55 8,37 | 2,552 2,552 2,678 2,678 3,693 | + ,012 + ,009 + ,016 + ,009 + ,028 | of the star has disappointed. |
| 2641 2643 2646 2649 2664 | . III . III . III . III | Microscopii η Vulpeculæ Microscopii Vulpeculæ Aquarii | 2=43,87 2=13,91 3=10,77 3=43,65 | 2=43,89 2=13,87 1=10,44 1=43,96 1=11,50 | 55 43,88 56 13,89 59 10.69 21 0 43,72 6 11,59 | 3,934 2,653 3,596 2,668 3,193 | - ,011 + ,002 + ,029 + ,005 + ,013 | The blank which precedes this in Vol. III. must be cancelled. |
| 2517 2688 1807 2701 2554 | . II . III . IV . III | 8 Equulei a Cephei Aquarii 111 Cephei Capricorni | 6=37,44 3=34,66 2=35,22 5=19,66 | 1=37,00 1= 7,89 1=34,86 1=35,74 2=19,61 | 7 37,38 19 7,89 20 34,71 24 35,39 25 19,65 | 2,995 1,728 3,262 1,175 3,280 | + ,006 + ,006 + ,015 + ,020 + ,016 | This observation was omitted in the Catalogue. |
| 2706 2726 1854 2727 2583 | . III . IV . III | Aquarii 377 Cygni Aquarii 10 Pegasi | 2=57,61 | l= 1,96 4=47,53 5=57,76 2=10,26 1=13,15 | 27 1,96 35 47,53 35 57,72 36 10,26 37 13,30 | 3,065 2,401 2,402 3,203 2,706 | + ,008 + ,014 + ,011 + ,015 + ,004 | These observations were omitted in the Catalogue |
| 2733 2735 2746 1902 2771 | . III . IV | Gruis v ² Aquarii | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $ \begin{array}{c cccc} 2 = 48,65 \\ 2 = 14,15 \\ 4 = 7,27 \\ 1 = 6,68 \\ 2 = 5,89 \end{array} $ | 38 48,79 41 14,15 47 7,33 54 6,61 22 0 5,73 | 2,753 2,519 3,649 3,088 1,840 | + ,005 + ,008 + ,028 + ,013 + ,015 | This observation was omitted in the Catalogue. See Piazzi's Note to these Stars. |
| 2772 2774 2775 2640 2641 | . III . III | 39 Aquarii Pegasi | $\begin{vmatrix} 1 & 3,70 \\ 2 & 25,71 \\ 5 & 34,80 \end{vmatrix}$ | $ \begin{array}{c c} 1 = 1,78 \\ 2 = 3,65 \\ 1 = 25,20 \\ 3 = 34,83 \\ 1 = 56,37 \end{array} $ | 0 1,78 3 3,66 3 25,54 3 34,81 3 56,37 | 1,812 2,004 2,025 3,243 2,891 | $\begin{vmatrix} + & ,010 \\ + & ,024 \\ + & ,005 \end{vmatrix}$ | |

| Refe | rei ce. | Names. | andrii gerzinementili | | R. Jan. 1, —from | Concluded Mean A R | Ann | ual | Remarks. |
|--------------------------------------|---|---|---|---|---|---|--|--|---|
| No. | Vol. | e de la companya de la companya de la companya de la companya de la companya de la companya de la companya de | | former obs. | present obs. | Jan. 1, 1836. | Precesn. | P. M. | en de la companya de la companya de la companya de la companya de la companya de la companya de la companya de La companya de la companya del companya de la companya del companya de la c |
| 2658 2796 2687 | of II III III III | Gruis 1 Lacertæ 162 Aquarii 37 Pegasi 57 Aquarii | $egin{array}{c} \mu^1 & a \\ a & \\ H^3 & \sigma \end{array}$ | s. 4=42,66 5=49,86 2=11,60 5=40,66 8=57,83 | s. 1=42,42 1=49,75 2=11,62 1=40,85 1=57,99 | h. m. s. 22 3 42,61 8 49,84 13 11,61 21 40,69 21 57,85 | s. +3.649 2,599 3,141 3,033 3,182 | s. + ,023 + ,019 + ,003 + ,006 + ,003 | |
| 2689 2818 2821 2823 2825 | . III . III . III . III | 17 Pis. Aust. 42 Lacertæ 221 Cephei Piscis Aust. | β | 6= 9,95 | 1=10,29 3=20,57 2=20,54 2=52,99 2=20,82 | 22 10,00 23 20,57 25 20,54 25 52,99 27 20,77 | 3,431 2,379 -3,465 -3,596 +3,402 | + ,011· + ,008 + ,176 + ,106 ,000 | N. P. D. 4°,44′ P. M. = 0″,21 of arc. N. P. D. 4°,37′ P. M. = 0″,13 of arc. |
| 2833 2844 2711 2713 2852 | . III | 7 Androm. Pegasi 43 ———— Aquarii | Pe o | $ \begin{array}{c c} 1 = 34,91 \\ 2 = 51,39 \\ \hline $ | $ \begin{array}{c cccc} 2 = 35,07 \\ 1 = 51,78 \\ 2 = 3,92 \\ 1 = 27,92 \\ 2 = 22,89 \end{array} $ | 28 34,97 33 51,52 34 3,92 34 27,81 39 22,87 | 2,651 2,949 2,802 3,147 3,108 | + ,004 + ,001 + ,010 + ,022 + ,003 | |
| 2856 2885 2895 2907 2908 | . III . III . III . III | 237 Aquarii 303 Pegasi Pis. Aust. | N | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $ \begin{array}{c cccc} 1 = 13,32 \\ 4 = 28,20 \\ 4 = 46,22 \\ 1 = 28,14 \\ 1 = 41,51 \end{array} $ | 42 13,28 59 28,20 23 1 46,24 9 28,38 9 41,28 | 3,131 3,266 3,015 2,977 3,231 | + ,001 + ,018 + ,010 + ,006 + ,045 | |
| 2909 2784 2787 2814 2828 | . II | 7 Piscium 62 Pegasi Aquarii 104—— | $rac{b}{	au}$ | 1=15,61 5=59,31 5=31,80 5=4,54 | $ \begin{vmatrix} 1 = 15,59 \\ 1 = 59,77 \\ 2 = 31,56 \\ 1 = 4,32 \\ 4 = 16,12 \end{vmatrix} $ | 10 15.60 11 59,39 12 31,73 27 4,50 33 16,12 | 3,229 3,046 2,952 3,097 3,122 | + ,012 + ,009 | (The star observed here is of the 9th mag, agreeing |
| 2959 2966 2056 2868 | . III . III . IV . II | Androm. 306 Cephei Pegasi Cassiopeæ | , | 3 = 27,44 $3 = 53,51$ $4 = 34,02$ | 1=27,13 1=53,55 1=34,07 4=17,67 | 36 27,36 40 53,52 45 34,03 53 17,67 | 2,930 2,866 3,052 2,996 | +,014 | |

In bringing up the results of Vol. II. and III. to 1836, as well as in reducing those of 1836—37, to the same epoch, the Annual Precession only has generally been employed; but in a few cases (where the P. M. was large) this too has roughly been applied; thus, to the results brought up with Precession from Vol. II, four times the amount of proper motion has been added: and to those from Vol. III. and from observation in 1836—37 one years proper motion only has been applied.

SUPPLIMENTARY CATALOGUE OF THE DECLINATION OF THE FIXED STARS.

| 1 | · · · · · · · · · · · · · · · · · · · | | · | Annual Company of the | THE PARTY NAMED IN COLUMN | Physiologicanicipates said saidine definitive | - | | non-marie de la communicación de la composición de la composición de la composición de la composición de la co | Maringo Spillings and paragraph | of descriptions and the second |
|--|---------------------------------------|----------------------------------|------------------------------------|--|---|--|---|--|--|---------------------------------|--|
| *************************************** | Refe | ence. | A, R. | Names. | | Mean Dec 1836,- | n. Jan. 1, from | Concluded Mean Decn. | Annual Preces- | P. M. | Remarks. |
| | No. | Vol. | | | | former obs. | present obs. | Jan. 1, 1836. | sion. | 1 1/1. | |
| Andrea Constitution Security Contract of Contract Contract of Contract Cont | 1 o 2 . 16 . 21 . 19 | II | H. M. 0 1 4 6 11 22 | 24 Ceti 61 Andromedæ 35 Piscium Tucanæ 117 Piscium | В | 5=43,30 5=34,70 10=23,19* 3=47,35 | 1 = 35,80 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | +20,038 20,038 20,035 20,019 19,947 | - ,08 - ,10 | Differs 2' from A. S. C. |
| | 40 44 45 22 27 | II III | 23 23 23 26 28 | Phænicis Tucanæ App. Sculp. 117 Andromedæ | λ ^ι β ^ι β ² ξ | 10=42,26 | 1 = 41,67 $1 = 42,32$ $1 = 7,97$ $1 = 6,90$ $1 = 45,67$ | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 19,940 19,935 19,935 19,916 19,887 | Secretaria States | Differs nearly 1' from A. S. C. |
| | 59 79 58 108 67 | II III II | 30 39 50 56 57 | 31 Andromedæ Piscium 322 Cephei 74 Piscium Cassiopeæ | δ ψ ¹ μ | 11=41,41 5= 5,88 4= 4,18 5=36,51 4=44,89 | 6 = 7,53 $3 = 4,31$ | +29 57 41,12 + 4 26 6,77 +86 16 4,24 +20 35 36,59 +54 6 44,86 | 19,435 | $-1,25 \\ +0,12 \\ -0,03$ | with the diff. from A. S. C. In Vol. III. the result was accidentally omitted. |
| | 113 124 132 135 140 | II II | 58 1 1 4 5 9 | 79 Piscium 32 Ceti 86 Piscium 88 ——————————————————————————————————— | ψ² ζι | 4=52,92 5= | 3 = 51,76 $1 = 23,65$ $1 = 37,11$ | +19 51 52,71 -9 46 51,76 +6 42 23,39 +6 7 35,13 +57 20 37,03 | 19,321 19,245 19,221 | ,29 | A wrong star observed in 1832 Pi. gives P. M. —",02 |
| | 97 158 162 167 178 | . II | 10 19 21 24 28 | Cassiopeæ Piscium 98 —— Phænicis 102 Piscium | ϕ μ δ | 5 = 34,71 $10 = 43,11$ $8 = 41,62$ | J=34,68 5=40,83 4=39,77 | $ \begin{array}{rrrrr} +57 & 22 & 3,15 \\ +7 & 6 & 34,70 \\ +5 & 17 & 42,35 \\ -49 & 55 & 41,00 \\ +11 & 18 & 4,17 \end{array} $ | | + ,03 - ,17 | |
| | 183 | | 32 44 50 52 53 | 137 Cassiopeæ 5 Arietis 153 Cassiopeæ 59 Ceti 57 Andromedæ | γ^1 v^2 γ | 5 = 36,15 $7 = 30,10$ | 4=20,92 2=35,08 3=30,07 | $ \begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$ | | $^{+}$,04 $^{-}$,04 | These 9 observations had been over- looked. Differs 11' from G. C. |
| | 196 214 | . III . III . III . III | 2 2 | 37 Arietis 52 ———————————————————————————————————— | X o | 4=26,66 4=* 4=6,55 | 4 = 32,93 $3 = 5,23$ $1 = 27,09$ | +25 8 25,76 +25 9 32,93 +56 45 5,98 +48 11 27,09 - 3 43 47,26 | 17,267 $17,050$ | + ,12 | N. P. D. 5° wrong in Vol. II. |
| | 227 | | 13 19 23 25 25 | Ceti Trianguli 43———————————————————————————————————— | | 4=47,68 2=54,30 4=49,06 4= 2,00 4=13,33 | 7=52,93 4=49,20 3=59,23 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | $16,452 \mid 16,270 \mid$ | + ,15 | |
| | 268 270 271 253 234 | 11 11 | 27 27 27 27 27 29 | Ceti 30 Arietis Ceti Persei | d 1 | | 3 = 47,72 $3 = 46,37$ $1 = 43,00$ | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 16,051 16,048 | -0,05 | I have retained the result of 30 Arietis for 1836, in order to shew the dif- |

| Reference. | A. R. | Names. | uhadinin kangan | | en. Jan. 1, | Concluded | Annual | | |
|---|---------------------------------------|--|--|--|--|--|---|---|---|
| No. Vol. | 13. 10. | Tvames, | ` | APPRINTED TO STATE OF THE PROPERTY OF THE PROP | present obs. | Mean Decn. Jan. 1, 1836. | Preces- sion. | P. M. | Remarks. |
| 280 . II 295 . II 242 . IV 252 . IV 324 . II | н. м. 2 32 36 37 49 51 | 83 Ceti Hydri Persei Horologii | ε | 9=16,22 $2=35,28$ $2=40,02$ | i | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | 15,528 15,470 | -,10 +,05 | Not now visible! Not now visible! |
| 330 of II 337 . II 261 . IV 303 . III 321 . III | 52 55 3 3 5 12 | 8 Eridani Fornacis Camelop. Messoris 142 Persei | $ ho^{\mathfrak{l}}$ $\mathbf{A}^{\mathfrak{2}}$ | 10 = 47,28 $2 = 23,65$ $2 = 26,76$ $4 = 34,10$ $4 =$ | 2=26,34 3=33,84 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | +14,610 14,483 13,948 13,801 | ,09 ,08 | |
| 368 . II 341 . III 389 . II 426 . II 429 . II | 13 27 28 42 43 | Eridani Persei 20 Eridani Tauri | e F | 9 = 0.98 $4 = 13.87$ $5 = 33.10$ $7 = 59.94$ | 3=59,96 4=15,40 6=49,28 4=35,75 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 13,346 12,368 12,302 11,329 | | Piazzi states the P. M. to be +0″,83 |
| 384 . III 439 . II 450 . II 483 . II 482 . II | 44 49 56 4 11 | 210 Eridani Hydri Reticuli Doradus 41 Eridani | γ X | 4= 6,41 1=56,93 10=53,80 10=13,10 10=10,41 | 3 = 35,44 $4 = 52,04$ $3 = 10,25$ | - 5 33 6,37 -74 44 35,44 -61 51 53,30 -51 54 12,44 -34 12 10,28 | 10,318 9,133 | | The observation in 1833 refers to another star. |
| 436 . III 506 . II 515 . II 448 . III 462 . III | 14 17 21 22 27 | 220 Persei 43 Eridani 80 Tauri Eridani | v^1 | 4 = 26,59 10 = 8,03 4 = 12,59 | 3 = 8,14 $4 = 20,30$ $3 = 43,31$ | +33 27 26,60 -34 24 8,05 +15 16 20,30 +42 40 43,31 -30 6 12,32 | 8,656 8,434 8,307 | $\begin{bmatrix} - ,02 \\ - ,17 \\ + ,14 \end{bmatrix}$ | A wrong star. |
| 465 . III 332 . IV 543 . II 578 . II 515 . III | 28 28 32 50 51 | Scep. Brand. Eridani Tauri Eridani | τ | 4 = 54,01 $4 = 6,83$ $14 = 9,58$ $1 = 9,00$ | 2 = 6,43 $2 = 9,30$ $3 = 6,90$ | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 7,858 7,504 6,081 | - ,07 - ,01 - ,07 | |
| 523 . III 610 . II 612 . II 554 . III 630 . II | 54 5 3 4 10 11 | Aurigæ Doradus 14 Aurigæ 2 Columbæ | e z a o | 7 = 54,95 $4 = 57,52$ $10 = 40,32$ | 3 = 51,41 3 = 21,01 3 = 55,70 | +62 15 14,11 -57 41 53,89 +32 29 21,01 -35 6 56,74 -35 3 40,11 | 4,96 <i>5</i> 4,819 | + ,18 - ,10 | { This P. M. is in accordance with the diff. (20"+) from A. S. C. |
| 667 . II 672 . II 590 . III 593 . III 685 . II | 24 25 26 27 28 | 120 Tauri Columbæ Orionis 40 ——— | ε C ² φ ² | 5=43,89 ==================================== | 4=45,76 4=23,99 3=12,46 | +18 24 59,60 -35 35 44,72 - 4 55 23,99 - 4 58 12,46 + 9 11 42,69 | 3,034 | -,17 $-,14$ | |
| 693 . II 609 . III 699 . II 721 . II 732 . II | 31 33 34 42 45 | 49 Orionis 393 Tauri Columbæ Tauri Columbæ | d a B | 9 = 36,44 3 = 37,51 43 = 55,88 5 9 = 6,24 | 2=39,05 4=56,99 4=35,04 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 2,315 | | A wrong star observed in 1832. |
| 735 . II 658 . III 746 . II 757 . II 674 . III | 47 51 52 57 59 | 34 Aurigæ Camelop. Columbæ 67 Orionis 191 Aurigæ | n Y | 11=13,75 10=22,96 27=48,00 3= 5,66 | 3 = 4,58 $4 = 21,80$ $3 = 48,33$ | +44 55 13,86 +51 34 4,58 -35 18 22,63 +14 46 48,03 +48 44 5,31 | 1,131 0,723 0,742 0,187 0,058 | - ,15 + ,03 - ,11 - ,23 ,00 | |

| Ref | erence. | A. R. | Names. | Me | | en. Jan. 1, from | 1 | eluc | | Annual | | |
|--------------------------------------|---|-------------------------------------|--|---|--|---|-------------------------------|---|----------------------------------|--|---|--|
| No. | Vol. | Zi. ili. | rames. | form | | present obs. | ·τ | | ecn. 836. | Precession. | P. M. | REMARKS. |
| 700 703 787 | 1 . III 2 . III 3 . III 7 . II | H. M. 6 1 8 10 11 11 | Columbæ 24 Monocer. 25 — Columbæ Lyncis | | =29,52 =11,69 | 3 = 12,12 $4 = 29,49$ | -37 + 5 - 10 | 8 3 40 1 5 2 | 52.68 37,55 12,12 29,51 | 0.914 | $\begin{vmatrix} + ,04 \\ - ,05 \\ + ,12 \end{vmatrix}$ | |
| 791 793 794 799 726 | . II | 1 <i>5</i> 18 | I Canis Maj. Monocer. 8 ——— 15 Geminor. 122 Camelop. | b 5= 5= 5= | =48.09 =26,30 = 7,32 =58,85 =12,63 | 3 = 46.00 $2 = 26.27$ $4 = 8.50$ $4 = 59.27$ $3 = 9.76$ | + 3 + 4 +20 | 50 2 42 52 <i>E</i> | 26,29 7,84 59,03 | 1,254 1,290 1,541 | — ,09 — ,08 — ,69 — ,03 — ,32 | |
| 728 747 770 780 790 | · III · III · III | 19 23 30 32 35 | 11 Navis 17 Lyncis Canis Maj. 23 Lyncis Canis Maj. | $v^1 \begin{vmatrix} 4 \\ 4 \end{vmatrix}$ | =32,53 =46,61 =43,36 | 2=34,22 3=51,44 2=44,58 2=40,28 3=49,88 | +61 $ -18$ $ +59$ | 36 <i>5</i> 31 <i>4</i> 35 <i>4</i> | 51,44 45,93 42,33 | 2,558 | +125 $+019$ -15 | |
| 490 807 809 854 814 | · III | 39 43 45 46 47 | Canis Maj. 29 Lyncis Canis Maj. 14 Lyncis | $\begin{array}{c c} h & 4 = \\ h & 4 = \\ \theta & - \end{array}$ | =25,96 =38,73 = 9,51 =30,43 | $ \begin{array}{c cccc} 2 &= 29,40 \\ 3 &= 38,25 \\ 1 &= 9,25 \\ 3 &= 18,17 \\ 1 &= 32,97 \end{array} $ | +57 -31 -11 | 45 3 31 50 1 | 38,52 9,46 8,17 | 3,853 4,021 | 00, 90, 00, | |
| 871 831 511 | . III | 52 55 7 0 | 112 Canis Maj. Geminor. Lyncis Navis 123 Geminor. | 5= - 1= | =14,88 = | 3 = 14,44 $1 = 13,50$ $4 = 31,58$ $3 = 6.65$ $3 = 44,50$ | $+29 \\ +60 \\ -43$ | 36 1 59 3 23 | 4,65 31,58 6,65 | 5,109 | / | Differs 26",59 from A. S. C. The result in the Catalogue is area |
| 528 891 894 917 943 | . III . III | 9 14 16 26 35 | 19 Lyncis 144 Geminor. Navis Canis Min. 186 Navis | 4= | 58,80 | 2 = 1,33 $3 = 51,43$ $4 = 8,14$ $3 = 37,95$ $3 = 12,94$ | +27 = 31 = 4 + 3 = 4 | 56 <i>5</i> 44 41 3 | 1,43 8,40 87,95 | 6,410 6,569 7.384 | ,06 + ,05 + ,05 ,02 ,04 | |
| 947 957 989 | . III | 36 38 42 56 57 | Navis 217 Navis 9 Cancri Navis | _ | 38,28 51,98 | 3 = 44,94 $3 = 39,90$ $3 = 26,93$ $3 = 57,32$ $3 = 55,21$ | -44 - 24 3 + 23 | 45 3 33 2 5 5 | 9,09 6,93 2,11 | 8,312 8,639 9,734 | - ,02 - ,59 - ,38 - ,06 + ,12 | |
| 999 1004 1009 1013 1024 | · III | 8 2 5 7 7 16 | Piscis Vol. Navis | $\begin{vmatrix} \psi^3 \\ \epsilon \\ \phi^2 \end{vmatrix} = -$ | =51,76 | 3 = 27,74 $1 = 51,46$ $3 = 3,87$ $3 = 54,98$ $3 = 53,14$ | $^{+18}_{-68}$ $^{-31}_{-31}$ | 9 5 8 89 5 | 1,70 3,87 4,98 | 10,216 10,356 10,572 10,537 11,243 | + ,11 - ,04 + ,09 + ,02 | |
| 1032 1049 1055 1061 1066 | . II | 19 31 31 33 37 | Argus Cancri Pixid Naut. Monocer. | $\beta \begin{vmatrix} 5 = 11 = 6 \end{vmatrix}$ | 7,75 51,15 51,08 | 3=57.65 2=45,33 3= 6,91 3=51,47 3=48,86 | $^{+20}_{+20}_{-34}$ | 6 4 7 1 3 5 | 5.33 7,51 1,23 | 12,249 | - ,16 - ,11 - ,10 + ,02 | A great number of stars at this spot has created much confusion;—these must be re-examined. Differs above 23" from G. C. |
| 1080 646 1124 1121 1136 | . IV | 9 0 7 9 15 | Cancri Pixid. Naut. Argus Navis Hydræ | $\begin{vmatrix} i & 3 = 4 \\ 8 = 4 \\ 4 = 5 \end{vmatrix}$ | 30,19 47,03 41,23 26,28 49,10 | 2=29,80 3=47,68 4=43,02 3=25,32 4=49,44 | -25 1 $-61 3$ $-36 5$ | 0 4 8 4 5 2 | 7,36 1,68 5,87 | 3 | | |

| Refere | ence. | | undersetten terhinarianskundigeriettä teninmokandiaaniarauvan lähed | | Mean De | c. Jan. 1, | | | enceptil spect/remandatiquesi | |
|---|--------------------------------|---------------------------------------|---|---|---|--|--|----------------------------|--|--|
| No. | Vol. | A. R. | Names. | | 1836 | | Concluded Mean Decn. Jan. 1, 1836. | Annual Preces- sion. | P. M. | Remarks. |
| 1151 of 1173 . 1179 . 1191 . 1195 . | III II II | H. M. 9 21 31 39 46 51 | 31 Hydræ 29 Ursæ Maj. 9 Sextantis | rl | 5=21,58 | 3=14,30 $4=50,96$ | -95831,23 +594815,24 | 16,004 16,359 16,675 | - ,08 + ,18 - ,25 - ,10 + ,10 | Differs 5",6 from G. C. |
| 1214 . 1256 . 1261 . 1274 . 1278 . | III II | 10 2 16 29 36 37 | 34 Leonis 37 Leo. Min. 42 | | 5=41,78 1=20,94 13=31,84 21=41,51 | 3 = 20,23 3 = 31,88 | +14 9 41,63 + 9 36 20,41 +32 49 31,85 +31 32 41,72 +19 45 12,60 | 18,058 18,488 18,723 | | I have re-observed these stars merely with a view to determine their difference of Declination.* |
| 1279 . 1288 . 1289 . 1329 . 1353 . | II II III | 37 42 43 55 11 7 | 52 Leonis 41 Sextantis 46 Leo. Min. 216 Ursæ Maj. 322 Leonis | k r o | 5 = 47,46 $12 = 45,53$ $3 = 22,48$ $4 = 26,85$ | 3 = 49,80 3 = 44,65 | $ \begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$ | 18,886 18,944 19,256 | ,40 | Differs 5",4 from G. C. |
| 1375 . 1407 . 1416 . 775 . 1371 . | III | 18 31 34 34 37 | Leonis Hyd. & Crat. Hydræ Virginis | V v | $ \begin{array}{c c} $ | 3=10,87 $4=17,54$ $3=31,24$ | | 19,887 19,912 19,913 | — ,1 <i>5</i> — ,02 | |
| 1437 . 1386 . 1426 . 808 . 1436 . | II II IV | 46 52 12 17 19 21 | 338 Ursæ Maj. 8 Virginis Crucis Virginis 18 Comæ Ber. | var. π α¹ | 16=44,70 | $ \begin{array}{c c} 4 = 45,99 \\ 3 = 42,94 \\ 3 = 31,77 \end{array} $ | $\begin{array}{c} +47 & 22 & 57,04 \\ +7 & 31 & 44,96 \\ -62 & 12 & 42,94 \\ +5 & 19 & 31,77 \\ +25 & 0 & 53,95 \end{array}$ | 20,031 19,987 19,971 | - ,04 - ,20 | A wrong star appears to have been observed in 1832. |
| 1445 1460 1599 1634 | . III . III . III | 25 30 52 13 8 59 | 20 Virginis 26 ———————————————————————————————————— | x | 4=10,62 | 3 = 28,88 $2 = 39,72$ $2 = 55,43$ | | 19,866 19,524 19,144 | | { Probably an error of 1' in Piazzi or in this result. { Piazzi has assigned the 9th mag. to this star whereas it is now of the 7th. |
| 1795 1664 1667 1668 1669 | . II . II | 14 18 34 36 37 37 | Bootis 32 ———————————————————————————————————— | ρ | | 4=18.65 2=33,56 2=33,63 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 15,709 15,566 15,545 | ,05 ,22 ,16 | the file. |
| 1676 1680 1685 1695 | . II . II . II | 38 41 43 49 49 | 13 Hydræ Con. 8 Libræ Bootis 15 Hydræ 1 Serpentis | α ^l | | 4=41,92 5=55,00 | $\begin{array}{r rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$ | 15,280 15,204 14,859 | - ,21 ,00 - ,07 | |
| 1703 . 1879 . 1898 . 1740 . 1741 . | 111 111 11 | 54 56 15 5 11 12 | Libræ 33 Ursæ Min. 97 Libræ 28 ——— | υ 0 ¹ . | 4=31,59 | 5 = 20.83 3 = 32.28 6 = 26.04 | - 7 11 20,86 +75 32 20,83 -17 48 31,89 -17 33 26,04 -14 57 9,63 | 14,410 13,835 13,458 | $ \begin{array}{c c} - & ,05 \\ + & ,02 \\ - & ,15 \end{array} $ | |
| 1773 . 1775 . 1776 . 1812 . 1815 . | 11 | 28 28 28 45 45 | Libræ 16 Serpentis 18 ——— 3 Scorpii 4 ——— | ${\rm A}^2$ | | 5=33,38 5=48,19 5= 2,88 5= 8,51 5=35,10 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 12,317 12,294 11,174 | - ,02 - ,15 + ,01 - ,24 - ,13 | |
| | gradicional upsi-ho-pago-casas | 1 | anamingraphia | *************************************** | · · · · · · · · · · · · · · · · · · · | 1 | | | | |

| Reference. | A. R. | Names. | | | en. Jan. 1, —from | Concluded Mean Decn, | Annual Preces- | | REMARKS. |
|--|--|--|---------------------------------------|--|---|---|---|---|---|
| No. Vol. | | ewer hight happinensstoonskinning suussearkad emillikuungsus seivenss | | former obs. | present obs. | Jan. 1, 1836. | sion. | P. M. | AUSTA A AUGS |
| 1965 of III 1990 . III 1046 . IV 1058 . IV 2072 . III | H.M. 1546 57 16 1 11 34 | Lupi Serpentis Scorpii | \\ | 3=40,01 4=39,58 4=46,53 4=55,50 | 2=39,40 2=43,00 1=46,92 1=57,74 5=39,59 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 10,187 9,966 9,167 | - ,25 - ,07 - ,09 | (This stay belongs to Val. III but wee |
| 1090 . IV 2097 . III 1942 . II 2127 . III 2142 . III | 42 42 50 56 17 1 | Scorpii 150 ——— Ophiuchi 117 ——— Herculis | | 3=58,38 4= 6,33 3=37,00 | 5 = 37,72 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 6,040 5,502 | + ,10 - ,06 - ,19 | This star belongs to Vol. III, but was introduced through mistake into Vol. IV. |
| 1973 . II 1974 . II 1980 . II 1985 . II 1991 . II | 7 7 11 11 15 | 39 Ophiuchi 66 Herculis 53 Serpentis 33 Scorpii | ο ω ν | | 6 = 0,57 4 = 59,97 4 = 55,38 3 = 22,59 2 = 7,21 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 4,285 | - ,08 - ,12 - ,02 | |
| 1996 . II 1997 . II 1998 . II 2014 . II 2193 . III | 17 18 18 25 27 | 73 Herculis 47 Ophiuchi 54 ———————————————————————————————————— | | l= 4,81* | 2 = 38,93 $2 = 9,66$ $3 = 45,74$ | $ \begin{array}{rrrrr} $ | 3,69 <i>5</i> 3,686 2,917 | ,21 ,07 | Piazzi's Declination is probably 1' too large, in which case P. M. = 0",11 |
| 2015 . II 2018 . II 2024 . II 1170 . IV 2026 . II | 27 28 29 30 31 | 53 Ophiuchi Serpentis Sagittarii Ophiuchi 79 Herculis | . | 4=46,71 | 2 = 50,14 $2 = 1,02$ $1 = 46,76$ | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 2,708 2,651 | - ,12 + ,07 + ,03 | |
| 2209 . III 2033 . II 2034 . II 2214 . III 1185 . IV | 34 34 34 35 35 | 142 Draconis Ophiuchi Draconis 83 Herculis | | 3= 4,61 | 1 = 46,94 $1 = 5,22$ $1 = 14,11$ | $egin{array}{cccccccccccccccccccccccccccccccccccc$ | 2,2 <i>5</i> 6 2,239 | + ,17 - ,06 | |
| 2221 . III 1191 . IV 2222 . III 2042 . II 2226 . III | 38 38 38 38 41 | Ophiuchi ———————————————————————————————————— | | 2=22,99 | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | +54610,71 $+254723,04$ $+55037,29$ $-313817,29$ $+54544,07$ | 1,851 | - ,04 - ,07 - ,03 | |
| 2229 . III 2231 . III 2235 . III 2237 . III 2239 . III | 41 42 43 43 44 | Telescopii 339 Herculis 290 Ophiuchi Tauri Pon. 297 Ophiuchi | • • • • • • • • • • • • • • • • • • • | 3=47,19 | $\begin{vmatrix} 2 = 47,14 \\ 2 = 14,46 \\ 1 = 44,30 \end{vmatrix}$ | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 1,590 1,497 1,468 | - ,03 - ,00 - ,11 - ,14 ,00 | |
| 2248 . III 2252 . III 2254 . III 2257 . III 2062 . II | 46 47 48 51 51 | 302 Ophiuchi 357 Herculis 7 Tauris Pon. 172 Serpentis 6 Sagittarii | | | 2 = 52,97 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 1,136 1,037 0,781 | - ,01 - ,09 - ,03 - ,23 - ,08 | |
| 2063 . II 2261 . III 2067 . II 2074 . II 2078 . II | 52 52 53 53 55 | Sagittarii 19 —— 7 —— 9 —— | a | | | -22 46 3,50 -22 53 41,60 -24 16 21,94 -24 21 21,34 -24 23 55,34 | 0,734 0,630 0,663 0,573 0,460 | - ,02 + ,02 - ,05 - ,02 - ,06 | |
| | Towns and constitution of papers | | | | * See errata. | | | dering productive and an account | |

| Refe | ence. | | Andread Angles - No. Control of C | Mean Decn. Jan. 1, 1836.—from | Concluded | Annual | |
|---------------------------------------|----------------------------------|---|--|---|---|--|---------------------------------------|
| No. | Vol. | A. R. | Names. | former obs. present obs | Mean Decn. Jan. 1, 1836. | Preces- P. M. | Remarks. |
| 2269 2276 2278 2283 2305 | . III . III | н. м. 17 56 59 18 0 1 15 | Ursæ Min. Sagittarii 406 Herculis i | $\begin{array}{c c} & 3=17.25 \\ & 2=51.34 \\ & 2=42.32 \end{array}$ | +74 35 33,66 -24 0 17,25 +42 56 51,34 +26 4 42,32 +29 47 7,67 | $ \begin{vmatrix} 0,041 & + & 0.02 \\ - & 0,006 & - & 0.07 \\ + & 0,117 & + & 0.03 \end{vmatrix} $ | |
| 2118 2123 2126 2127 2132 | · II | 15 18 20 20 20 22 | 21 Sagittarii Sagittarii VI Clypei Sob. Sagittarii | $ \begin{array}{c cccc} & & 1 = 28,75 \\ 5 = 18,49 & & 1 = 16,11 \\ & & 4 = 59,30 \end{array} $ | -20 37 20,18 -17 47 28,75 -33 5 18,10 -14 40 59,30 -18 30 25,31 | 1,574 — ,09 1,741 — ,09 1,759 — | for the star intended—* |
| 2318 2135 2139 2140, 2150 | | 22 23 23 23 23 28 | Cor. Aust. χ Sagittarii v^2 61 Serpentis e Sagittarii | $\begin{array}{c c} - & 3 = 44.45 \\ - & 3 = 46.70 \end{array}$ | $\begin{bmatrix} -1 & 6 & 46,70 \\ -18 & 28 & 48,73 \end{bmatrix}$ | $ \begin{array}{c cccc} 1,991 & - & ,02 \\ 2,024 & - & ,06 \\ 2,026 & - & ,02 \end{array} $ | |
| 2151 2152 2153 2157 2202 | . 11 | 28 28 28 32 54 | Clypei Sob. Sagittarii Herculis 26 Sagittarii S | 4=45,74 3= 9,31 2=22,89 4=39,82 3=45,03 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $ \begin{array}{c ccccc} 2,457 & + & ,02 \\ 2,480 & - & ,51 \\ 2,745 & - & ,02 \end{array} $ | |
| 2212 2215 2217 2248 2249 | . II . II | 58 58 58 19 12 12 | Sagittarii $ \frac{44}{27} \frac{\rho^{1}}{\text{Aquil}} \frac{\rho^{1}}{d} $ | 3=24,09 | -28 52 51,14 -24 54 24,09 -19 32 24,41 -18 8 51,59 - 1 13 | 5,006 - ,11 5,042 - 6,178 + ,15 | |
| 2250 2251 2261 2262 2263 | . II . II | 12 12 16 17 17 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $\begin{array}{c cccc} & & & 1 = 21,59 \\ & & & 1 = 38,77 \\ & & & 1 = 20,49 \end{array}$ | -18 36 16,82 -16 15 21,59 -30 3 38,77 -15 22 20,49 +16 37 31,32 | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | |
| 2457 | | 17 18 20 35 38 | Sagittarii 2 Cygni a 19 — a Draconis Aquilæ v | $ \begin{array}{c cccc} & & 1 = 17,51 \\ 3 = 7,05 & 3 = 10,82 \\ 2 = & 2 = 1,67 \end{array} $ | | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 8 9 9 9 9 9 9 9 9 9 |
| 2326 2478 2482 | . III . III . III . III | 38 42 45 46 47 | 73 Cygni 51 Aquilæ D 187 — Sagittæ | 3=23,97 | +11 13 45,00 $-8 38 50,28$ | $ \begin{vmatrix} 8,582 & -& 0 \\ 8,828 & -& 2 \\ 5 & 8,938 & +& 0 \end{vmatrix} $ | |
| 2510 2528 1519 | . III . III . IV . III | [6 | Sagittarii H Draconis e ¹ Aquilæ Sagittarii I ¹ | $\begin{vmatrix}$ | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | These observations were omitted in |
| 2420 2575 2438 | . III | 25 27 28 31 34 | Cygni 46 — ω³ Ursæ Min. λ 28 Vulpeculæ Delphini | 3 = -1 = 57,35 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $egin{array}{c cccc} 7 & 11,926 & + & , 3 \ 5 & 11,852 & + & , 6 \ 9 & 12,279 & + & , 6 \ \end{array}$ | 4 6 7 |

^{*} A star of the 6th Magnitude near this has been observed, Declination -170 53' 30",09.

| Refe | rence. | A. R. | Names. | Mean Dec 1836,- | n. Jan. 1, -from | Concluded Mean Decn. | Annual Preces- | Р. М. | Remarks. |
|--------------------------------------|-------------------------|--|---|--|-----------------------------------|---|----------------------------|---|---|
| No. | Vol. | | | former obs. | present obs. | Jan. 1, 1836. | sion. | 1, 111, | Malantana da anta anta anta anta anta anta |
| 2495 2649 2664 | . III | H. M. 20 44 54 59 21 6 19 | Cephei 2 Equulei λ Vulpeculæ Aquarii | 5=25,08 | 3=24,46 $1=36,31$ $1=40,14$ | 0 / // +44 58 43,74 + 6 32 24,85 +22 55 36,31 - 7 45 40,14 -12 47 22,16 | 13,785 14,164 14,563 | $\begin{bmatrix} - ,02 \\ - ,03 \end{bmatrix}$ | |
| 2688 2691 2706 2565 2568 | . III | 19 21 27 29 32 | Cephei Vulpeculæ z Aquarii 4 Pegasi T ¹ 42 Capricorni d ¹ | $ \begin{array}{c} $ | l=52,82 $l=3,26$ $2=3,07$ | +57 14 18,87 +26 53 53,31 + 0 15 3,26 + 5 2 2,98 -14 46 32,16 | , , | ,14 | Differs 9" from A. S. C. Piazzi gives P. M0",38. |
| 2757 2775 2774 2648 2678 | . III . III . II | , | Piscis Aust. Cephei Gruis 53 Aquarii E2 | | 1 = 56,61 $2 = 28,69$ $3 = 31,12$ | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 17,510 | -,08 | |
| 2689 2699 2825 2833 2850 | . 11 | 22 27 27 27 29 37 | 17 Piscis Aust. β 61 Aquarii L Piscis Aust. σ 7 Andromedæ 222 Aquarii | 5=13,93 | 1=12,21 2=29,80 4=14,06 | -33 11 1,70 -18 18 13,64 -32 30 29,15 +38 47 14,53 -10 30 15,12 | 18,402 18,434 18,475 | $\begin{array}{c c} + ,03 \\ - ,07 \end{array}$ | |
| 2872 | . III . III . III | 40 51 59 23 12 | Aquarii 7 Piscium b | 4=45,87 4=28,16 5=13,24 | 2 = 25,15 $4 = 12,52$ | $\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$ | 19,157 19,353 | - ,11 + ,36 | |

One remark is here necessary with regard to the foregoing Catalogue,—namely, that the precessions in Declination are those copied from the Vols. already printed; and consequently pertain to the epochs for which those tables were constructed, and not to the year 1836, to which the places of the stars are reduced: with a view to remedy this defect, as well as to supply an every day want of the practical Astronomer, I have computed the following tables.

A Table of the annual variation of the Precession in Right Ascension in time.

arg at top the Declination and at the side the A. R. of the Star.

| Declin. North. | 'Oo | 300 | 50° | 600 | 650 | 700 | 7 5º | 780 | 800 | 820 | Declin. South. |
|--|---|---|---|---|--|--|--|---|--|---|--|
| H M. O 0 30 I 0 30 II 0 30 | s. ,0000 , 00 , 00 , 00 , 00 | s. +,0001 , 02 , 02 , 02 , 02 , 03 | s. +,0003 , 04 , 04 , 05 , 05 , 05 | s. +,0004 , 06 , 07 , 07 , 07 , 08 | s. +,0006 , 08 , 10 , 11 , 12 , 12 | *. +,0008 , 11 , 13 , 15 , 16 , 17 | s. +,0011 , 16 , 20 , 22 , 25 , 27 | s. +,0014 , 22 , 29 , 34 , 37 , 39 | s. +,0017 , 28 , 37 , 45 , 52 , 54 | s. +,0021 , 38 , 54 , 66 , 76 , 80 | XII 0 30 XIII 0 30 XIV 0 30 |
| III 0 30 IV 0 30 V 0 30 | ,0000 , 00 , 00 , 00 , 00 | , 02 , 02 , 01 , 01 | , 03 | +,0008 , 08 , 07 , 05 , 03 , 01 | +,0012 , 11 , 10 , 08 , 05 , 03 | +,0017 , 16 , 15 , 12 , 07 , 04 | +,0027 , 26 , 21 , 17 , 12 , 07 | +,0040 , 38 , 33 , 26 , 18 , 09 | $\left[\begin{array}{ccc} , & 52 \\ , & 45 \\ , & 37 \\ , & 26 \end{array} \right]$ | 78 , 68 , 54 , 38 | |
| VI 0 30 VII 0 30 VIII 0 30 | , 00 , 00 , 00 | , 00 , 01 , 02 , 02 | , 01 , 02 , 03 , 04 | -,0000 , 02 , 04 , 05 , 07 , 08 | -,0000 , 03 , 05 , 07 , 09 , 11 | ,0000 , 04 , 08 , 11 , 14 , 16 | ,0000 , 07 , 12 , 17 , 21 , 26 | , 09 , 18 , 26 , 33 | , 13 , 26 , 37 , 45 | , 20 , 38 , 54 , 68 | XIX 0 30 XX 0 |
| IX 0 30 X 0 30 XI 0 30 | , 00 , 00 , 00 | , 03 , 02 , 02 , 02 | , 04 , 04 , 04 | , 01 , 07 , 07 , 06 | , 12 , 11 , 10 , 09 | , 17 , 17 , 15 | , 27 , 25 , 22 | , 39 , 37 , 34 , 29 | 54 , 52 , 45 , 37 | 80 7 , 76 7 , 54 | 30 XXII 0 30 XXIII 0 |
| XII 0 30 XIII 0 30 XIV 0 | , 00 , 00 , 00 | 0 , 01 , 00 , 00 , 00 , 00 | , 00 +, 00 +, 01 | -, 02 , 00 +, 01 +, 02 | -, 03 -, 00 +, 02 +, 03 | -, 04 , 00 +, 02 +, 03 | -, 06 , 00 +, 03 +, 06 | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | [-, 00] | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | 30 I 0 30 31 II 0 |
| XV 0 30 XVI 0 30 XVII 0 30 | , 00 , 00 , 00 , 00 |) , 01) , 01) , 01) , 00 | $\begin{array}{c c} & , & 02 \\ & , & 02 \\ \hline & , & 01 \\ \end{array}$ | , 03 , 03 , 03 , 02 | 05 05 04 04 03 | , 06 , 07 , 06 , 04 | , 10 , 11 , 10 | $egin{array}{cccccccccccccccccccccccccccccccccccc$ | $egin{array}{cccccccccccccccccccccccccccccccccccc$ | $egin{array}{cccccccccccccccccccccccccccccccccccc$ | 30 7 IV 0 9 30 8 V 0 |
| XVIII 0 30 XIX 0 30 XX 0 | , 00 | $\begin{bmatrix} 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 &$ | 0 , 01 , 02 , 02 | , 01 , 02 , 03 | , 02 , 03 , 05 , 05 | , 02 , 04 , 06 , 06 | 6 , 04 6 , 07 6 , 10 | 1 , 00 7 , 1: 0 , 10 0 , 1: | $egin{array}{c cccc} 2 & , & 1 \ 5 & , & 2 \ 8 & , & 2 \ \end{array}$ | 9 , 14 7 , 28 4 , 39 8 , 4' | 30 8 VII 0 9 30 7 VIII 0 |
| XXI 0 30 XXII 0 30 XXIII 6 | , 00 | 0 , 00 0 , 00 0 , 00 | 0 , 01 0 -, 01 0 , 00 | $\begin{bmatrix} 1 & 1 & 0.5 \\ 1 & 0.5 \\ 1 & 0.5 \end{bmatrix}$ | $\begin{bmatrix} 1 & 0.04 \\ 0.03 \\ 0.04 \end{bmatrix}$ | , 05 , 04 , 02 , 00 | , 08 , 06 , 04 , 00 | $\begin{bmatrix} 3 & 1 & 1 \\ 3 & 1 & 1 \\ 4 & 0 & 0 \end{bmatrix}$ | $egin{array}{cccccccccccccccccccccccccccccccccccc$ | $egin{array}{c cccc} 4 & & 4 \\ 1 & & 3 \\ 4 & & 2 \\ 4 & & 1 \\ \end{array}$ | 0 IX 0 7 30 8 X 0 6 30 XI 0 5 30 |

A Table of the annual variation of the Precession in Declination.
arg at top the Declination, at the side the A.R. of the Star.

| | ette oranormanistromanistrom I | Marie manacemanistration of the second | - u y u c | iop the Dec | cenacione, ac | the stue th | e A.R. of | ine Star. | | | |
|---|---|---|---|---|---|---|---|---|---|---|--|
| Declin. North. | Oo | 300 | 500 | 600 | 650 | 700 | 750 | 780 | 800 | 820 | Declin. South. |
| H. M. XII 0 30 XIII 0 30 XIV 0 30 | s. +,0000— , 06 , 11 , 17 , 22 , 27 | s. +,0000— , 05 , 10 , 15 , 20 , 23 | +,0000— , 05 , 10 , 14 , 17 , 19 | s. +,0000— , 05 , 09 , 12 , 14 , 15 | s. +,0000— , 05 , 08 , 10 , 11 , 11 | s. +,0000— , 05 , 08 , 09 , 09 , 08 | s. +,0000— , 05 , 07 , 06 , 04 , 00 | s. +,0000— +, 04— +, 05— +, 03— -, 01+ -, 07+ | +, 04— +, 04— , 00 -, 06+ | +, 03- , 02 -, 03+ | 30 I 0 30 II 0 |
| XV 0 30 XVI 0 30 XVII 0 30 | +,0032— , 36 , 39 , 41 , 43 , 44 | +,0026— , 28 , 30 , 32 , 33 , 33 | +,0020- , 21 , 21 , 21 , 22 , 22 | +,0015— , 14 , 13 , 13 , 12 , 12 | +,0011- , 10 , 09 , 07 , 04 , 04 | +,0005 +, 02 -, 01+ , 04 , 07 , 08 | -,0005+ , 11 , 16 , 20 , 24 , 26 | -,0014+ , 22 , 30 , 36 , 41 , 44 | -,0023+ , 34 , 45 , 54 , 60 , 63 | -,0037+ , 51 , 65 , 78 , 86 , 92 | HII 0 30 1V 0 30 V 0 30 |
| XVIII 0 XIX 0 30 XX 0 30 | +,0045— , 44 , 43 , 41 , 39 , 36 | +,0033— , 33 , 33 , 32 , 30 , 28 | +,0022- , 22 , 22 , 21 , 21 , 21 | +,0012 , 11 , 12 , 12 , 13 , 14 | +,0003— , 03 , 04 , 06 , 09 , 10 | -,0009+ , 08 , 07 , 04 , 01 , 02 | -,0028+ , 26 , 24 , 20 , 16 , 11 | -,0047+ , 44 , 41 , 36 , 30 , 22 | -,0066+ , 63 , 60 , 54 , 45 , 34 | -,0093+ , 92 , 86 , 78 , 65 , 51 | VI 0 30 VII 0 30 VIII 0 30 |
| XXI 0 30 XXII 0 30 XXIII 0 30 | +,0032— , 27 , 22 , 17 , 11 , 06 | +,0026— , 23 , 20 , 15 , 10 , 05 | +,0020- , 19 , 17 , 14 , 10 , 05 | +,0019— , 14 , 14 , 12 , 09 , 05 | +,0011- , 11 , 11 , 10 , 08 , 05 | +,0005— , 08 , 09 , 08 , 08 , 05 | , 00 +, 04 , 06 , 07 | -,0014+ -, 07+ -, 01+ +, 03- +, 05- +, 04- | -, 14+ -, 06+ , 00 +, 04- | -, 24+ -, 12+ -, 03+ +, 02- | X 0 30 |
| O 0 30 I 0 30 II 0 30 | ,0000+ , 06 , 11 , 17 , 22 , 27 | -,0000+ , 06 , 12 , 18 , 25 , 31 | -,0000+ ,06 ,13 ,20 ,28 | ,0000+ , 06 , 14 , 22 , 31 , 40 | -,0000+ , 06 , 14 , 23 , 33 , 43 | ,0000+ , 07 , 15 , 25 , 36 , 47 | -,0000+ , 07 , 16 , 27 , 40 , 54 | -,0000+ ,08 ,17 ,30 ,45 ,60 | , 08 , 19 , 34 | , 09 , 21 , 38 | XII 0 30 XIII 0 30 XIV 0 30 |
| IV 0 30 V 0 30 | , 36 , 39 , 41 , 43 , 44 | , 43 , 48 , 52 , 55 , 56 | , 50 , 56 , 61 , 65 , 67 | -,0049+ , 57 , 64 , 70 , 75 , 77 | -,0052+ , 61 , 70 , 77 , 82 , 85 | ,0058+ , 68 , 79 , 88 , 93 , 97 | -,0068+ ,081 ,093 ,103 ,111 ,116 | -,0076+ ,091 ,106 ,119 ,130 ,135 | ,0086+ , 104 , 121 , 134 , 146 , 152 | -,0101+ , 121 , 140 , 156 , 170 , 180 | XV 0 30 XVI 0 30 XVII 0 30 |
| VII 0 30 VIII 0 30 | -,0045+ , 44 , 43 , 41 , 39 , 36 | , 56 , 55 , 52 , 48 , 43 | , 67 , 65 , 61 , 56 , 50 | ,0078+ , 77 , 75 , 70 , 64 , 57 | , 85 , 82 , 77 , 70 , 61 | , 97 , 93 , 88 , 79 , 68 | ,0117+ , 116 , 111 , 103 , 093 , 081 | , 135 , 130 , 119 , 106 , 091 | , 152 , 146 , 134 , 121 , 104 | -,0183+ , 180 , 170 , 156 , 140 , 121 | XVIII 0 XIX 0 XX 0 XX 0 30 |
| IX 0 30 X 0 30 XI 0 30 | , 22 | , 25 | -,0043+ , 35 , 28 , 20 , 13 , 06 | -,0049+ , 40 , 31 , 22 , 14 , 07 | , 43 | -,0058+ , 47 , 36 , 25 , 15 , 07 | . 54 | , 30 | -,0086+ , 68 , 50 , 34 , 19 , 08 | -,0101+ ,079 ,057 ,038 ,021 | XXI 0 30 XXII 0 30 XXIII 0 30 |

PROPER MOTION OF THE FIXED STARS.

In Vol. III. is given the Mean of the Proper Motions of all the Stars in the Catalogue, (3005 in number) both in Right Ascension and Declination: and from what there appeared to be—a tendency to exhibit a general proper motion in the whole system of Stars, or more simply, a movement of the Solar System in space, I have been induced to follow up the enquiry with the 2066 Stars which occur in the present volume, and have in a similar manner brought about 2600 Stars from the Catalogue of Volume II., to bear upon the same subject: how far these have succeeded in establishing this point will appear presently; -in the mean time, it may be proper to remark, that in an investigation of this nature, we may imagine that every star is affected with true* Proper Motion, more or less: some Proper Motions from their magnitude, are at once recognized, whilst others from their minuteness, are lost sight of in the errors incident to observations:—we may expect however among the latter class, that—occurring indifferently + or — as the larger proper motions do,—the mean among a great many Stars would approximate to zero, and thereby leave disengaged any apparent Proper motion which might exist; accordingly in the table which now follows, I have given the mean of all the Proper Motions in Right Ascension for each hour of A. R., omitting only those alluded to in the column "P. M. Stars;"-those Stars in fact whose proper motion exceeds all possible limits of error of observation; thus;—the largest error of A. R. found in the Madras Results was in the case of 169 Ceti, which differed 0,52s. in 1835, from the place determined in 1832: should the whole of this amount in the way of error, apply to one of the determinations; and should an error to the same amount but contrary direction occur in Piazzi's Catalogue, it would give rise to an error +, $\frac{52}{1}$ in the observed P. M. (t being the date of the Catalogue since 1800); in addition to this, we must take account of the fact, that the Equinoctial Point assumed by Piazzi in the construction of his Catalogue, was the same as that employed by Dr. Maskelyne; whereas we have employed a zero point 0,20s, behind this; hence the Comparison of our Catalogue with Piazzi's, ought to exhibit a P. M. in Right Ascension to the amount $\frac{+, 20s}{t}$; combining this with the above, we may safely assume,—that in either Catalogue—any value found in the Column "P. M. in A. R," which exceeds the limits $\frac{+1.24s}{,}$ and -0,84s, is more or less the effect of Proper Motion, notwithstanding the errors of observation: thus we have

By the term true" Proper Motion is meant an actual movement of the Star in space with reference to any point we may consider fixed; whereas apparent Proper Motion is such as would result from a movement of the Solar System.

A Table of the Proper Motions of the fixed Stars in A. R.

| | 7 | Vol. II. | for 1832 (2881 S | tars.) | Vol | . III. for 1835 (30 | 03 Stars.) | Vol | | | |
|---|----------|-----------------|--|--------------------------------|--------------|--|--------------------------------|--|---|--|-------------------------------------|
| | A. R. | P. M. Stars. | No. and sum of + & — P. M. | Mean $\frac{-,20}{t}$ (-,0063) | P. M. Stars. | No. and sum of + & - P. M. | Mean $\frac{-,20}{t}$ (-,0057) | P. M. Stars, | No. and sum of + & - P. M. | Mean $\frac{-,20}{t}$ (-,0056) | General Mean P. M. |
| | н. м. | _ | 90 = +1,152 | \$ | | 60 = +0.912 | <i>s</i> . | | 114 = +1,358 | S. | 8. |
| | 0 | 7 | 7 = -0.041 $87 = +1.085$ | +,0051 | 7 | $ \begin{array}{c} 11 = -0.077 \\ 87 = +1.081 \end{array} $ | } +,0061 | 1 | 8 = -0,026 | } +,0053 | +,0054 |
| | 1 | 4 | 12 = -,077 | +,0039 | 8 | 15 = -0,109 | +,0038 | 3 | 63 = +0,897 $3 = -0,025$ | } +,0076 | +,0047 |
| j | II | 6 | 91 = +1,260 9 = -0,049 | +,0058 | 7 | 61 = +0,661 $37 = -0,318$ | ,0022 | 1 | 51 = +0,178 5 = -0,032 | } +,0059 | 十,0027 |
| | III | 2 | 93 = +1,154 $10 = -0,065$ | } +,0043 | 4 | $ \begin{array}{c} 69 = +0,701 \\ 28 = -0,177 \end{array} $ | } -,0003 | 0 | 45 = +0.579 8 = -0.048 | } +,0044 | +,0025 |
| | IV | 6 | 126 = +1,608 $7 = -0,037$ | } +,0055 | 5 | 95 = +0,928 26 = -0,175 | +,0005 | 3 | 44 = +0.682 $12 = -0.091$ | } +,0050 | +,0036 |
| | v | 5 | 127 = +1,313 $12 = -0,082$ | } +,0025 | 2 | $ \begin{array}{c} 116 = +1,009 \\ 28 = -0,201 \end{array} $ | } -,0002 | 2 | 63 = +0.745 7 = -0.045 | } +,0044 | +,0017 |
| | VI | 3 | 104 = +0,979 8 = -0,039 | } +,0021 | 9 | 122 = +1,185 32 = -0,240 | } -,0004 | 3 | 56 = +0.784 $6 = -0.027$ | } +,0066 | +,0019 |
| | VII | 2 | 90 = +0.761 $12 = -0.065$ | +,0005 | 7 | $ \begin{array}{c} 123 = +1,154 \\ 23 = -0,166 \end{array} $ | +,0011 | 3 | 54 = +0,663 | +,0037 | ±,0015 |
| | VIII | 2 | 77 = +0,748 $16 = -,104$ | +,0017 | 3 | 79 = +0.918 | +,0001 | 2 | 8 = -0.086 $57 = +0.695$ | +,0048 | +,0019 |
| | IX | 4 | 83 = +0.677 $10 = -0.072$ | +,0013 | 6 | 31 = -0.280 $73 = +0.709$ | _,0007 | 1 | 6 = -0.042 $54 = +0.651$ | \(\) | |
| | X | 1 | 74 = +0.811 | +,0016 | 7 | 30 = -0.189 $84 = +0.907$ | ,0001 -,0001 | $\left \begin{array}{c}1\\2\end{array}\right $ | 9 = -0.051 36 = +0.557 | +,0041 | +,0012 |
| | XI | 3 | 15 = -,107 $66 = +0,674$ | +,0016 | 7 | $\begin{array}{c} 29 = -0,276 \\ 97 = +1,128 \end{array}$ | ; | ~ | 4 = -0.922 $42 = +0.531$ | +,0067 | +,0016 |
| | XII | 4 | 8 = -0.089 $72 = +0.069$ | } -,0003 | 9 | 41 = -0.348 $115 = +1.233$ | 0000, | | 6 = -0,021 $45 = +0,635$ | +,0050 | +,0019 |
| | XIII | 6 | 14 = -,108 67 = +,532 | _,0003 | 2 | 19 = -0.198 $105 = +1.086$ | +,0023 | 1 | 5 = -0,030 $68 = +0,730$ | } +,0063 | +,0023 |
| | XIV | 2 | 21 = -,183 $69 = +,653$ | 3 | | 32 = -0.244 $98 = +0.969$ | +,0004 | 6 | 7 = -0.080 | } +,0033 | +,0003 |
| | XV | 3 | 18 = -,124 80 = +,747 | { -,0002 | 4 | 33 = -0.195 $82 = +0.846$ | +,0002 | 2 | 47 = +0,470 $6 = -0,032$ | } +,0028 | +,0006 |
| | XVI | | 9 = -0.043 $72 = +0.069$ | +,0016 | 4 | $ \begin{array}{c} 18 = -0.146 \\ 85 = +0.721 \end{array} $ | 十,0013 | 1 | 52 = +0.520 $5 = -0.062$ | } +,0024 | +,0016 |
| | | 4 | 16 = -109 84 = +0,772 | ,0006 | 0 | 48 = -0.358 | } | 0 | 55 = +0.549 8 = -0.039 | +,0025 | -,0010 |
| | XVII | 4 | 17 = -0.069 | +,0007 | 3 | 82 = +0.754 $39 = -0.280$ | ,0018 | 2 | $ \begin{array}{c} 104 = +1,272 \\ 13 = -0,093 \end{array} $ | } +,0044 | +,0010 |
| | XVIII | 4 | 92 = +0.883 $12 = -0.057$ | } +,0017 | 5 | 81 = +0.718 $22 = -0.185$ | —, 000 <i>5</i> | 4 | 82 = +0.926 $12 = -0.091$ | } +,0033 | +,0015 |
| | XIX | 6 | $ \begin{array}{c} 114 = +1,192 \\ 12 = -0.062 \end{array} $ | +,0027 | 4 | 97 = +1,005 $24 = -0,186$ | +,0011 | ı | 142 = +1.654 $16 = -0.109$ | +,0042 | +,0028 |
| | XX | 7 | 100 = +1,134 $17 = -1,04$ | +,0025 | 10 | 97 = +1,150 $16 = -0,117$ | +,0034 | 4 | 193 = +2,292 | +,0047 | +,0038 |
| | XXI | 3 | 98 = +1,205 $13 = -0,057$ | +,0041 | 5 | 96 = +1,227 $12 = -0,104$ | +,0047 | 22 | $ \begin{array}{c} 18 = -0.122 \\ 144 = +1.873 \\ 10 = -0.117 \end{array} $ | } +,0052 | +,0048 |
| | IIXX | 4 | 104 = +1,274 $10 = -0,039$ | } +,0045 | 13 | $ \begin{array}{c} $ | +,0041 | 4 | 19 = -0.117 $72 = +0.910$ | { } | } |
| | XXIII | 2 | 97 = +1,162 8 = -0,039 | } +,0044 | 9 | $ \begin{array}{c} 170.049 \\ 94 - +1.259 \\ 130.101 \end{array} $ | +,0051 | 4 | 6 = -0.025 $57 = +0.799$ | +,0057 | +,0047 |
| 1 | | | , | | | 10 | | , | 7 = -0.029 | } +,0064 | +,0053 |
| | | | | | | | | - | | The state of the s | ggaphara imilanii gaganaanki innaan |
| | | | | | | | | | | g. Talan | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

On inspecting the several columns in the above table, we perceive (as indeed might have been expected), that the errors incident to observation, combined with the chance excess of + or — true Proper Motion—exert a very power-ful sway over our results; examining the column "Mean," there is however a determination to plus maximum in the neighbourhood of O hours, which is certainly not the effect of chance:—on referring to the formulæ for the Precession in Right Ascension (c).

```
c = +46,021 + 20,043 \sin a \tan \delta
```

it is at once evident, that although a slight modification of the assumed General Precession of the Equinoxes, may be necessary; still, the cause of variation throughout this column remains unexplained: with regard to the effect of error in the Precession upon this table; it is necessary to know approximately, the situation of the stars observed: on referring to the Catalogues, it will be found that they are pretty evenly distributed, and that about one half of the whole number in each hour, is situated within $\pm 20^{\circ}$ of Declination; thus,

| | | | | | | | | | | |
|--------|---|---|-------------|---------------|-------------|------------|---|--|--|------------|
| if bet | ween | | 4 50 | and | | 400 | of D | eclination | there are | e 26 Stars |
| then | *************************************** | | 40 | | | 30 | | • | Mary and a second | 42 |
| | | | 30 | | | 20 | Aug - True vertication | AND AND AND AND AND AND AND AND AND AND | | 31 —— |
| | | | 20 | | | 10 | - | demonstrate promotioning | | 40 —— |
| | | | 10 | ************* | | 0 | ********* | | And Printers of the Control of the C | 72 |
| | - | *************************************** | 0 | - | + | 10 | | | | 100 |
| | | + | 10 | - | + | 20 | | the see a second | - | 100 —— |
| | *************************************** | + | 20 | · | - - | 30 | | The state of the s | | 88 —— |
| | - | + | 30 | | - - | 40 | | - | ************************************** | 47 —— |
| | Transmiss, Provinces | + | 40 | | + | 5 0 | *************************************** | | | 55 —— |
| | - | + | 50 | - | + | 60 | | Media Managara para managa | h | 42 —— |
| | - | - - | 60 | | + | 70 | | Magazinia - Magazi | sternish to the state of the st | 36 —— |
| | | | 70 | ********* | - - | 80 | . * | | gaarasteerid strongerinds | 20 —— |
| | | + | 80 | *********** | + | 90 | t | - | province to 1 solution | 4 |
| | | | | | | | | | * | |
| | | | | | | | 9 | | | 703 —— |

If we now compute for each hour of A. R.—the change of annual precession due to each of these 703 Stars from a change of 1" in the value of the General Precession in Longitude—and then take the means,—they will exhibit to a sufficient degree of accuracy, the *nature* of the corrections which apply to the column "Proper Motion in A. R." in case the Precession has been wrongly assumed; thus

Error of the Column "Mean P. M. in A. R." corresponding to an error of 1" in the General Precession in Longitude.

| RIGHT A | SCE | sion. | erro | r in time |
|------------------------|-----|-------|------|--------------|
| h. | m. | | | s. |
| 0 | 30 | | | ,063 |
| I | 30 | | | ,065 |
| II | 30 | | === | ,068 |
| III | 30 | | | ,070 |
| 1V | 30 | | | ,071 |
| \mathbf{v} | 30 | | === | ,072 |
| VI | 30 | | | ,072 |
| VII | 30 | | | ,071 |
| VIII | 30 | | | ,070 |
| IX | 30 | | | ,068 |
| \mathbf{X} | 30 | | - | ,065 |
| XI | 30 | | == | ,063 |
| XII | 30 | A | | ,060 |
| XIII | 30 | | === | ,058 |
| XIV | 30 | | ==: | ,055 |
| $\mathbf{x}\mathbf{v}$ | 30 | | | ,053 |
| XVI | 30 | | | ,052 |
| XVII | 30 | | | ,051 |
| XVIII | 30 | | == | ,051 |
| XIX | 30 | | === | ,052 |
| $\mathbf{X}\mathbf{X}$ | 30 | | === | ,053 |
| XXI | 30 | w | | ,055 |
| IIXX | 30 | | - | ,0 58 |
| XXIII | 30 | | | ,060 |

Since then the disposition of the above numbers is not such as to explain the various values found in the column "Proper Motion in A. R.;" we will now consider what effect a motion of the Solar System in space would have upon the question: in the first place we notice with regard to its general effect—that there would be two opposite neutral points, situated in the axis of motion, and that at right angles to this—there would be a plane of maximum motion:—with regard to its effect upon our results for the A. R.—it is necessary to consider again the position of the Stars constituting the results: on consulting the table at page CXVII, it appears that the whole of the Stars may roughly be supposed—to be congregated about a circle of 15° of North Declination, or surrounding the pole at a distance of 75° from it: with this view of the subject, we perceive that our results should exhibit two zero points, and one of +, and another of —, maximum; and moreover, that the mean of the 24 results

should = 0; on taking the mean however, it comes out + s,0025: exhibiting with reference to the above table,—that the General Precession in Longitude should be increased 0",0416;* If we now apply to our results the corrections due to this, and convert them into space, we have as follows—

Observed General Proper Motion of the Fixed Stars in A. R.

| A. | R. | P. M. Space | ,,,, | P. M. in arc of a great circle. |
|------------------------|----|----------------|------|---------------------------------|
| h. | m. | , | | " |
| 0 | 30 | + ,0420 | or | + ,0368 |
| I | 30 | + ,0315 | | + ,0266 |
| $\mathbf{II}_{,}$ | 30 | ,0015 | | ,0000 |
| HII | 30 | - ,0060 | | ,0026 |
| \mathbf{IV} | 30 | + ,0090 | | + ,0101 |
| V | 30 | ,0195 | | — ,0139 |
| VI | 30 | ,0165 | | ,0114 |
| VII | 30 | - ,0225 | | — ,0173 |
| VIII | 39 | ,0135 | | ,0101 |
| IX | 30 | - ,0240 | | ,0190 |
| X | 30 | -,0165 | | ,0127 |
| \mathbf{XI} | 30 | ,0105 | | ,0076 |
| XII | 30 | — ,0030 | | ,0024 |
| XIII | 30 | — ,0315 | | ,0254 |
| XIV | 30 | ,0255 | | — ,0203 |
| $\mathbf{X}\mathbf{V}$ | 30 | ,0090 | | ,0077 |
| XVI | 30 | ,0495 | | — ,03 93 |
| XVII | 30 | ,0165 | | ,0140 |
| XVIII | 30 | ,0090 | | -,0076 |
| XIX | 30 | + .0090 | | + ,0089 |
| $\mathbf{X}\mathbf{X}$ | 30 | + ,0240 | | + ,0203 |
| XXI | 30 | 十 ,0345 | | + ,0444 |
| XXII | 30 | + ,0345 | | +,0304 |
| XXIII | 30 | + ,0420 | | -+ ,0368 |
| | | | | |

The reduction into arc, has been effected with reference to the table at page CXVII on the supposition that the Declination of each group of Stars is constant, or the P. M. in arc = P. M. in space $\times \left(\frac{26.\cos 42^{\circ}30' + 42.\cos .35^{\circ} + 31.\cos + &c.}{703}\right)$

We will now leave the above table for the present, and proceed to take notice of the Annual Proper Motion in Declination. Taking the Means in each hour of A. R. we obtain as follows.

^{*} Agreeable to the formulæ employed in deducing these three catalogues;—the Precession in A. R. for $1830 = 46^{\circ},0206 + 20,0426 \sin \alpha \tan \delta$, whereas it would appear from this result, that the proper formulæ is $= 46^{\circ},0587 + 20,0577 \sin \alpha \tan \delta$

A Table of the observed Proper Motion of the Fixed Stars in Declination.

| V | ol. Il. | for 1832 ;—2881 | Stars. | Vol. III. for 1834 ;—3003 Stars. | | | | Vol. IV. for 1836;—2066 Stars. | | | |
|-------|-----------------|--|----------------------------------|----------------------------------|--|--------------------------|--------------|---|------------------------------------|--|--|
| A. R. | P. M. Stars. | No. and sum of + & — P. M. | Mean. | P. M. Stars. | No. and sum of + & — P. M. | Mean. | P. M. Stars. | No. and sum of + & — P. M. | Mean. | | |
| н. м. | | 32 = +2,10 | , | <u> </u> | 29=+ 0,99 | 0001 | 1 | 43 = + 2.03 | 0000 | | |
| 0 | 6 | 67 = -6,30 $41 = +2,11$ | $\{-,0424\}$ | 5 | $\begin{array}{c c} 43 = -3.73 \\ 48 = +2.28 \end{array}$ | } - ,0381 | 1 | 80 = -6,19 30 = +1,69 | ,0338 | | |
| I | 7 | 52 = -5.41 20 = +0.95 | - ,0355 | 2 | 60 = -5,37 37 = +2,51 | $\frac{1}{2}$ - ,0286 | 2 | 38 = -2,96 $29 = +1,76$ | ,0187 | | |
| II | 9 | 74 = -7,42 | } ,0688 | 7 | 61 = -5,97 | } ,0353 | 2 | 30 = -2,64 | ,0149 | | |
| III | 3 | 27 = + 1,47 $72 = -6,39$ | - ,0497 | 7 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | } - ,0304 | 3 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | -,0272 | | |
| IV | 9 | 32 = + 1.76 97 = -10,23 | } - ,0657 | 5 | 51 = + 3,19 70 = -6,36 | | 2 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | } - ,0087 | | |
| v | 9 | 38 = + 1,95 $88 = - 9,04$ | -,0563 | 3 | 53 = + 3.96 74 = -6.99 | | 4 | 38 = + 1,96 $30 = -2,00$ | } — ,0007 | | |
| VI | 8 | 29 = + 2,37 76 = -6,14 | $\frac{1}{2}$ - ,0359 | 10 | 72 = + 4,56 79 = -7,61 | - ,0202 | 1 | 28 = + 2.31 38 = - 3.22 | -,0138 | | |
| VII | 2 | 32 = + 2,25 69 = -6,41 | $\left\{ -,0412\right.$ | 5 | 59 = + 2,96 89 = - 7,49 | $\{-0306\}$ | 1 | $\begin{array}{c c} 29 = + 2,08 \\ 33 = - 3,25 \end{array}$ | (0189) | | |
| VIII | 3 | $\begin{array}{c} 22 = + 1,31 \\ 67 = - 5,86 \end{array}$ | } — ,0511 | 2 | 30 = + 1.70 76 = -6.31 | } ,0435 | 2 | 25 = + 1.12 40 = - 2.97 | { - ,0284 | | |
| IX | 6 | 16 = + 1,32 $58 = -5,29$ | $\left\{ -,0536\right\}$ | 3 | 31 = + 1,36 75 = -5,55 | $\frac{1}{2}$ - ,0395 | 1 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $\left\{ -,0170 \right $ | | |
| X | 5 | 20 = + 1,13 $62 = -6,60$ | $\left\{ -,0667\right.$ | 2 | 39 = + 1,55 $79 = - 8,19$ | $\left\{ -,0563\right.$ | 2 | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | { -,0449 | | |
| XI | 5 | $\begin{array}{c} 23 = + 0.74 \\ 55 = -5.25 \end{array}$ | -,0568 | 6 | 28 = + 1,45 92 = - 8,64 | } ,0599 | 1 | 6 - + 0.31 36 = -3.76 | $\{-,0821$ | | |
| XII | 5 | 22 = + 0.96 60 = -5.59 | $\left.\right\}$ - ,0565 | 3 | 51 = + 3,47 87 = - 8,14 | | 2 | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $\left. \frac{1}{2} \right 0.0814$ | | |
| XIII | 7 | 18 = + 0.95 $68 = -6.81$ | ³ - ,0681 | 2 | $\begin{array}{c c} 46 = + 2,57 \\ 90 = - 7,45 \end{array}$ | } ,0359 | 6 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | -,0389 | | |
| XIV | 13 | 21 = + 1,48 57 = -5,96 | $\left\{ -,0574\right\}$ | 5 | $\begin{array}{c c} 41 = + 1.91 \\ 90 = - 8.13 \end{array}$ | -,0475 | 2 | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | } ,0642 | | |
| xv | 18 | 23 = + 1,28 $70 = -6,48$ | $\left\{ -,0559\right\}$ | 3 | 31 = + 2,36 $72 = -6,27$ | 380, — 3 | 1 | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | },0640 | | |
| XVI | 9 | 24 = + 1.81 $73 = - 8.07$ | -,0645 | 6 | 38 = +1,94 95 = -10,41 | } -,0637 | 1 | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | } ,0446 | | |
| XVII | 15 | 21 = + 1,32 60 = -4,84 | } — ,0435 | 10 | $\begin{array}{c c} 32 = + 1,25 \\ 76 = - 8,27 \end{array}$ | } - ,0650 | 6 | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | } ,0616 | | |
| XVIII | 19 | 22 = + 1,30 $64 = -6,40$ | $\left\{ -,0593\right.$ | 4 | 31 = + 1,73 76 = - 8,42 | -,0625 | 1 | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | } - ,0710 | | |
| XIX | 19 | 29 = + 1,30 82 = -7,88 | -,0593 | 4 | $\begin{array}{c c} 33 = + 1,90 \\ 80 = - 8,20 \end{array}$ | $\left.\right\}$ - ,0558 | 8 | 32 = + 1,28 $119 = -11,28$ | } ,0662 | | |
| XX | 6 | 40 = + 2.55 $78 = - 8.86$ | $\left\{-,0535\right\}$ | 5 | $\begin{array}{c c} 43 = + 3,03 \\ 85 = - 9,12 \end{array}$ | { ,0476 | 4 | 52 = + 2,85 158 = -14,87 | } — ,0572 | | |
| XXI | 12 | 26 = + 1,73 $75 = -7,65$ | $\left. \frac{1}{3}0586 \right $ | 2 | 33 = + 1,50 $78 = -7,76$ | } - ,0564 | 3 | 53 = + 2,76 130 = -11,97 | } ,0503 | | |
| XXII | 9 | 27 = + 1,65 84 = - 8,36 | ,0605 | 4 | 45 = + 2,43 67 = -5,85 | } -,0354 | 4 | $\begin{array}{c c} 29 = + 1,50 \\ 51 = - 4,21 \end{array}$ | 3 - ,0339 | | |
| XXIII | 9 | $\begin{array}{c c} 27 = + 1,77 \\ 72 = -6,26 \end{array}$ | } -, 0454 | 3 | $\begin{array}{ c c c c c }\hline & 43 = + & 2,59 \\ & 70 = - & 5,58 \\\hline \end{array}$ | } — ,0265 | 4 | 94-111 | ,0348 | | |

Here we find all the results affected with the sign minus, which leads us to enquire what circumstances may affect the Palermo or Madras Observations to account for such a disposition;—in the first place, the Latitudes l, l' of Palermo or Madras, may be wrong; and in the next place the error of the tables of refraction will enter; added to which any error in the General Precession in Longitude, will effect each result by a quantity x. cos. A. R.; or each of the above results may possibly be erroneous to the amount $\frac{dl+dl'+dr+dr'}{t}$ + x. cos. A. R.; which put = S + x cos. A. R.

With regard to the first of these terms, it will be observed—that its effect is constant throughout, for each catalogue; but would be larger upon that for 1832 than that for 1835 or 1836—in proportion to the value of t (the date since 1800); whereas the term depending upon the A. R., (which is common to each catalogue), being variable throughout the column, to the same extent +, as it is—, will be lost sight of on taking the mean of the 24 hours; thus—taking the mean for the 24 hours of the three catalogues we get

General Annual P. M. in Declination. =
$$-0.0544 + \frac{S}{32.5}$$

= $-0.0417 + \frac{S}{35}$
= $-0.0406 + \frac{S}{37}$
 $\therefore S = +3''.61$

With regard to the value of d l', we have no evidence to shew the extent of accuracy obtained, we only could have expected and wished, that the results of so great and good a catalogue as Piazzi's had in this respect been free from any serious error: the value d l' has already been found at page 73 to be—1"; which is probably within a tenth or two of a second of the truth; to form an estimate of the value d r; it may be safely assumed, that the *uncertainty* of refraction, for altitudes above 10° —varies as the amount of refraction itself, or nearly as the tangent of the zenith distance of the Star: if then with reference to the table at page cxvii, we compute the value

$$\frac{26 \ /an. \ 41^{\circ} \ 30' \ + \ 42 \ tan. \ 35^{\circ} \ + \ 31 \ tan. \ 25^{\circ} \ + \ \&e}{703}.$$

we find, that the uncertainty of refraction for the Palermo observations is such as would apply to a Star situated 43°,15 from the zenith; at which place, half a second is certainly the extreme limit of error, or $dr = \pm$ ",5: with regard to the Madras results, the case is much more favorable, for the Stars are so evenly disposed on either side of the zenith, that it matters not what table of

refractions had been employed; hence $d r \equiv 0$ and we have found altogether

 $S = 3'', 61 = dl - 1'', 0 \pm 0'', 5 \pm 0$... dl is between 4'', 1 and 5'', 1 or it would appear that the Latitude of Palermo is above 4'' less than that assigned to it by Piazzi.

A variation of above 4" however, and that built only upon very slender grounds,—cannot for the present be admitted; we will therefore substract the mean result of each catalogue from its several constituents' values, and then combine the results according to their weight; when, putting s, for the true correction which remains to be applied to these to render them just; and x for any error which may result from a wrong assumption of the General Precession, we obtain as follows—

| · | ~~ ~~~~~~ | | |
|------------------------|-----------|-------------------------------|-------------------------------------|
| A. 1 | R. | General P. M. in Declination. | Cord. General P. M. in Declination. |
| h. | m. | No. 1. | No. 2. |
| 0 | 30 | s + ,0078 + ,991 x | s = .0071 |
| I | 30 | +,0172+,923 | +,0038 |
| II | 30 | +,0032+,793 | — ,0083 |
| III | 30 | +,0099 +,608 | +,0009 |
| IV | 30 | +,0072+,382 | +,0015 |
| V | 30 | +,0146+,130 | + .0127 |
| VI | 30 | + ,0216 $-$,130 | +,0235 |
| VII | 30 | + ,0139 $-$,382 | + ,0196 |
| VIII | 30 | +,0037 -,608 | +,0127 |
| IX. | 30 | +,0073 = ,793 | +,0188 |
| X | 30 | -,0121 $-,923$ | +,0013 |
| XI | 30 | ,0171 $,991$ | -0023 |
| XII | 30 | ,0037 $,991$ | +,0111 |
| XIII | 30 | -,0009 -,923 | +,0126 |
| XIV | 30 | ,0111,793 | +,0004 |
| $\mathbf{X}\mathbf{V}$ | 30 | -0043 - 608 | +,0047 |
| XVI | 30 | ,0142,382 | ,0085 |
| XVII | 30 | | -,0115 |
| XVIII | 30 | -,0190 + ,130 | -0211 |
| XIX | 30 | - ,0160 + ,382 | ,0217 |
| XX | 30 | -0090 + 608 | — ,0180 |
| XXI | 30 | -,0094+,793 | -,0209 |
| XXII | 30 | +,0019+,923 | -,0115 |
| XXIII | 30 | + ,0108 + ,991 | |

In which s,—if the above error of 4" in the Palermo Latitude be admitted, = +,"0595.

Examining column No. 1, we find a pretty regular determination to + and —, which cannot possibly arise from accident—we notice, that any small correction for error of Precession, such as found at page cxix,—since it interferes in no respect with the general tendency of the numbers, it may be applied or not, at pleasure; to be consistent however, it will be proper to apply the

correction due to an alteration of ,"041 in the General Precession as found at page cxix; viz, thus ",0150 cos. A. R.: thus No. 2. If we now divide the line A, B, Fig. 1 into 24 equal parts, to represent hours of A. R., and, making use of any convenient scale—set off opposite to 0h. 30m. 1h. 30m. &c. the perpendiculars a 1, a 2, &c. corresponding to the values given in the table at page cxix, and perform the same for the above table; we get two series of lines 1, 2, 3, and 1, 2, 3, exhibiting in the first instance, the observed annual Proper Motion in A. R., of Stars supposed to be situated at 0h. 30m. 1h. 30m. &c. of Right Ascension, and at a distance of 75° from the North Pole; and in the second case, exhibiting the nature of the annual P. M. of the same Stars in declination, but not its extent. If we now with freedom draw a curve line through each of these serieses of points, conforming as nearly with them as is consistent with the character of a curve; we shall by measuring the ordinates, obtain corrected values of the Proper Motion, thus

Corrected Proper Motion.

| | | . - | |
|------------------------|-----|-----------------|--------------------|
| | | in A. R. in are | in Declination. |
| h. | m. | " | <i>II</i> |
| O | 30 | +,0312 | s0100 |
| I | 30 | +,0250 | -,0070 |
| II | 30 | +,0180 | ,0020 |
| III | 30 | +,0135 | +,0040 |
| IV | 30 | +,0060 | +,0100 |
| V | 30 | -,0035 | +,0145 |
| VI | 30 | -,0110 | + ,0180 |
| VII | 30 | -,0160 | + ,0190 |
| VIII | 30 | -,0175 | + ,0180 |
| \mathbf{IX} | 30 | — ,0190 | + ,0170 |
| \mathbf{x} | 30 | -,0200 | +,0145 |
| XI | 30 | -,0210 | +,0115 |
| XII | 30 | ,0210 | + ,0080 |
| XIII | 30 | | +,0040 |
| XIV | 30 | — ,0190 | -,0015 |
| $\mathbf{x}\mathbf{v}$ | 30 | — ,0180 | — ,0015 — ,0065 |
| XVI | 30 | — ,0158 | -,0005 ,0110 |
| XVII | 30 | — ,011 <i>5</i> | ,0110 ,0145 |
| XVIII | 30 | ,0045 | |
| XIX | 30 | +,0067 | — ,017 <i>5</i> |
| XX | 30 | +,0163 | ,0195 |
| XXI | 30 | + ,0103 | — ,019 <i>5</i> |
| XXII | 30 | +0.300 | — ,017 <i>5</i> |
| XXIII | 30 | • | - ,0160 |
| WWITT. | -50 | +,0320 | ,0140 |

These numbers it will readily be admitted, have been arrived at in a legitimate way, and they are to all intents and purposes Proper Motions: since then it will not for a moment be contended that they represent "true" or actual Proper Motions of the Stars themselves, we will see how far the supposition of a motion of the Solar System in space will account for the several values;

for this purpose, on the centre P (fig. 3) with the chord of 75° describe a circle, which divide into 24 equal parts, corresponding to the several points at which we have determined the Proper Motions: with reference to the P. M. in A. R. we find, that it arrives at O at about V and XIX hours; whereas to represent the effect of motion of the Solar System these points should be separated by 12 hours: let us then assume VI and XVIII to represent the zero points its A. R., and draw the line VI-XVIII: if we assume the point to which the motion of the Solar System is directed, to be situated any where in the direction P. XVIII, it will at once represent the nature of the above table for the A.R.: for the effect of advancing to any point N, being to increase the arc N S. to N S' (in which S. S.' = M. sin. N S.) its effect at any point between 18h. and 6h, is to increase the Right Ascension, whereas at the corresponding points between 6h. and 18h. it causes a diminution to the like amount: examining these results, it appears on trial that no single value for M, will satisfy both of these tables; if we allow that Piazzi's Latitude has been correctly observed (and since writing the above, I find in the Nautical Almanac, from late observations an exact confirmation of the value assigned by Piazzi); then, the distance of the point N from P, comes out between 23° and 24°, a point which is sufficiently enough distinguished, as being the Pole of the Ecliptic: with regard to the Declination Proper Motions,—the very improbable result arrived at, at page cxxi from the mean of the whole 24 hours, teaches us-that little dependance can be placed upon individual results; and on examining different tables of Refraction, it will be found, that the various corrections for temperature, which are given in one or other of these, offers a sufficient explanation for the want of agreement of the P. M. from the Declination observations with that found from the Right Ascensions. Since writing the above, on consulting the three several results of the table at page cxvi-instead of the mean which has hitherto been employed—I find that the determination to + and -- maximum is much more strongly marked in the first catalogue than it is in the second; and that the second is more strongly marked than the third:-Now this result is precisely the one which should obtain from a motion of the Solar System in space; for, on consulting the first catalogue (Vol. 11.) it will be found to contain several stars of the first and second magnitudes, and a great many of the third and fourth &c. or it may be assumed, that-

| For the | Catalogue in Vol. II. the average | mag. | Mileston Western | 5,4 |
|---|-----------------------------------|-------------------------|--|-----|
| | | MITTERS HEADY IN | projecto provi Digitales-secti | 6,4 |
| *************************************** | 1V. | part of the of the fact | Mary and the state of the state | 7,8 |

Although in individual instances—the degree of brightness exhibited by the fixed stars cannot be assumed as a measure of their relative distances; still in large catalogues such as the above, it is natural to suppose that—taken en masse, those are nearest to us which are the brightest; hence the stars in Vol. II. from being brighter—nearer to us—should render a movement of the Solar System in space more apparent than those given in Vol. III or IV: with this view of the subject, the anomalies met with at pages cxxi and cxxii, (where the P. M. in Declination from the three catalogues gave S = 3'',61 and Piazzi's Latitude above 4" in error) are fully explained and accounted for: and for the present it may be assumed—that the Solar System is in motion in space, and that its motion is directed towards the North Pole of the Ecliptic; and, exhibiting in the fixed Stars with reference to their average distance (if such an expression can be tolerated),—an annual change of place in Latitude, to the amount + ",059 cos. Lat. of the Star.

SUPPLIMENTARY OBSERVATIONS AND MEMORANDA.

In the ordinary course of Observing and computing, it often happened—that an appearance different from ordinary, an error, an omission, or a discordance of some kind or other—has offered, which it was desireable should be placed on record, or, that the matter if doubtful, should on a subsequent occasion be re-examined &c.—in either of these cases the observing or computing books not offering sufficient accomodation for remarks, and in some cases being in-appropriate,—I have been in the habit of entering into a memorandum book, these circumstances &c. as they have occurred, and in the course of printing, when opportunity has offered—I have availed myself of its contents;—several of these memoranda which still remain, are for my own private, information and guidance, whilst others again—appear to belong to this work: such as they are, I have thought it best to give them here in the rough manner and order in which they have been made, thus—

MEMORANDA &c.

I. Re-examined the N. P. D. of 40 Lyncis r which exhibits a strange disagreement when compared with the Greenwich place—thus

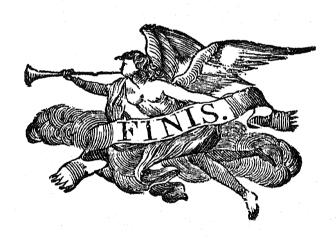
| | | | | Reduced | to | Jan. | 1, 1835. |
|-----------|------------------------|---|------|--|----|------|----------|
| Greenwich | place from | observations in | 1825 | , in the contract of the contr | 54 | 54 | 52,76 |
| Madras | | *************************************** | 1831 | | | | 58,20 |
| | - | | 1832 | | | | 57,45 |
| | PPPR/PPR/PPPR/PPPR/PPP | • | 1833 | | | | 57,38 |
| | - | Jan. | 1835 | | | | , |

| | | | 0 | , | 11 | | | |
|--|-------|----|----|----|--------|----------|---|-------|
| 1836 | March | 26 | 54 | 55 | 12,017 |) | | |
| | April | 13 | | | 10,61 | > 1836 | | 56,25 |
| | | 16 | | | 10,59 |) | | |
| 1837 | Feb. | 4 | | | 11,92 | \ | | |
| | | 18 | | | 12,08 | l | | |
| | March | 6 | | | 11,73 | | | |
| | | 7 | | | 12,76 | 1837 | | £7 £9 |
| | | 18 | | | 12,69 | 71001 | | 57,53 |
| | | 19 | | | 12,32 | À | | |
| | | 20 | | | 12,84 | | | |
| en en en en en en en en en en en en en e | April | 13 | | | 12,47 | <i>)</i> | • | |

- II. No. 171 in II hours is preceded by another Star at 16 seconds, whereas Piazzi says at 12 seconds.
- III. No. 152 in IV hours:—Piazzi's Declination probably five minutes in error; examine this.
- IV. No. 64 in IX hours is not observed:—I looked for it on the 29th and 30th April 1837 (it being very clear), saw No. 65 but 64 had disappeared.
- V. No. 15 in XI hours:—It is very extraordinary that Piazzi has not noticed the star following this at 4—5 seconds, and 23" to the North.
- VI. No. 154 in XII hours:—in Piazzi's Catalogue the A. R. is given 187° 36′ 50″,4; instead of 187° 39′ 50″,4 I imagine.
- VII. No. 39 in XIII hours:—Piazzi's Annual Precession is erroneous, hence the Right Ascension is probably so too.
- VIII. No. 25 in XIII hours:—Piazzi gives diff. Declination between this and the accompanying Star = 16'',9 whereas from our obs. 1837 May 23 = 25'',0 -24 = 27'',2
- X. No. 168 in XVIII hours:—On the 25th April 1837, I observed two stars here, 5' North and 0,60s. following.
- XI. No. 53 in XIX hours:—Piazzi says, "6",2 temporis alia 8,9 æ magnitud. praecedit, 3' ad Boream": it now in (1837) differs 7,8 seconds.
- XII. No. 106 in XIX hours:—May 3d 1837 I observed two stars here;

 Piazzi has not noticed this—

- XIII. No. 252 in XIX hours:—Two Observations with the Transit give the A. R. 1m. or 15' different from Piazzi; in the Catalogue I have through inadvertence supposed our results to be erroneous; but this must be re-examined.
- XV. No. 221 in XX hours:—Piazzi says "8" temporis 6' ad austrum alia 8 æ magn. sequitur: I cannot find this Star, but have observed one 20 seconds preceding and 6' to the South—examine this again.
- XVI. No. 286 in XX hours:—This Star is not to be found in the place assigned from Piazzi's Catalogue; the nearest Star is 10—11 minutes of space distant.
- XVII. No. 42 in XX hours:—I re-examined the place of this Star on the 14th September in 1837, when the A. R. January 1, 1837 came out 20h. 4m. 37,94s. confirming the large P. M. —,330s. found in Vol. III.



Errata in the present Volume.

```
Page 4, line 15, for observations read observation
                     57, — 39, — semid. 15' 52",62 read 15' 58",62
In the Catalogue No. 124 P. M. A. R. — + ,905
                                                  read + .005
                   183 Mag.
                                            8
                          Declin. — No. obs. 2=32",36 read 4=20",92
                   709
                                            10h.
                          A. R.
                   710
                                      insert 10h.
                  1233 Log. d—
                                                            +5,9780
                                      --5,9780
                  1235 Log. d—
                                      +4,5105
                                                           -4,5105
                                  — No. 69—Vol. II.
                Page xciv
                                                        — No. 69—Vol. III.
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Additional Errata in Vol. II.

```
In the Catalogue No.
                     21
                            N. P. D.
                                        for 46",27
                                                       read 43",27
                    109
                                         -- 100° 51′
                                                        - 100° 52′
                     147 Ann. Pre. A. R.
                                            4.833s.
                                                           3,833s.
                                            1h. 17m.
                    155
                                                        -1h. 18m.
                    157
                                         -1h. 18m.
                                                        -1h. 19m.
                    274
                                         -2h. 2m.
                                                        -2h, 28m.
                                                        -5h. 33m.
— it was not obsd.
                    701
                                         -5h.34m.
                    805
                                         -45,70s.
                                        - 66° 55′
                            N. P. D.
                    989
                                                        -- 66° 53′
                                         - 1029 171
                   1365
                                                        - 102° 16′
                                        - 90° 27′
                   1540
                                                          a wrong star.
                   1690
                                         - 110° 36′
                                                        - 110° 38′
                   1968
                             A. R.
                                           54,62s.
                                                            53,62s.
                   2051
                                        -17h.46m.
                                                        -17h. 47m.
                   2110
                                        -18h. 12m.
                                                        -18h. 13m.
                   2174
                                            26,32s.
                                                           36,32s.
                            N. P. D.
                                        - 56° 32′
                   2455
                                                            56° 39′
                   2456
                             A. R.
                                        --52,95s.
                                                           29,19s.
```

Additional Errata in Vol. III.

```
In the Catalogue at pages xx, xxvi, xxxii, xxxiv, xxxviii and xliv, correct the date to 1835.
                 69
                                      16,54s. read 17,54s.
            No.
                          A. R.
                                  for
                                        9.09s.
                 98
                                               -11,07s.
                403
                                        4,41s.
                                                     1.10s.
                                       55° 69
                436
                                                   56° 55
                                       58,87s.
                718
                                               -53,60s. & P. M. = +,009s.
                                       44,23s.
                746
                                               -40,75s. & P. M. =
                827
                                       41,28s.
                                                   41,85s. & P. M. =
                                                                        ,078s.
                838 Piaz. No.
                                        329
                                                     332
                          Declin. — 1=34.85 — 19'',44 & correct P. M. = -0'',48
               *838
                841 P. M. Declin. —
                                       +",08 - +0",37
                                       -,108s. -+,001
                980 — A. R.
                993
                                         783s. —
                                                    8.54s.
               1109 P.M.-
                                        -,057s. —
                                                    ,000s.
               1162 P.M.-
                                        -,116s. — –
                                                    -,023s.
               1655
                          A. R.
                                        49,17s. —
                                                    49,69s.
               1660
                                        19,09s. —
                                                    19,75s.
               2096 Log.
                           \mathbf{C}
                                  for -0.6218 read +0.6218
                          Declin.
               2193
                                        13,15s. —
                                                    13,14s.
               2221
                                        51,75s. —
                          A. R.
                                                    52,14s.
               2452
                          Declin.
                                       14° 30′ —
                                                   16° 30′
               2453
                                  — Cancel the result
```

—,140 — —,330

2528 P. M. in A. R. —

^{*} This however must be re-examined.

